Introductory Lecture
ON
RATIONAL MEDICINE.

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GENTLEMEN,—It has devolved upon me to deliver to you the introductory address with which it is the custom to commence the work of a new session. I shall be addressing many who have in previous years listened to a similar lecture, as well as others who are here for the first time. To all of you I have to offer a hearty welcome in the name of the Principal and my colleagues of the medical staff, and to express the earnest wish that those of you who are just commencing your studies may find in them all, and more than all, that pleasure and gratification which your most sanguine anticipations may have conceived.

The study of Medicine is one which, in many respects, presents peculiar attractions, dealing as it does with subjects which excite universal curiosity and interest. It is of a continually progressive nature, and offers practically unlimited fields for new and original observation and research; while the knowledge which is acquired gives to its possessors an enormous influence over the material and moral well-being of the community. At no other period did the medical profession occupy a position of greater influence and importance than at present, and at no former period in its history has there been a greater amount of intellectual activity in every department of medical science. Gratifying as these facts are to all who are interested in the progress of medicine and of the medical profession, they carry with them graver responsibilities on the part of those who would worthily fit themselves for their professional duties. The time has long since gone by when medical students might be students merely in name—in attendance on, but far from attending to, lectures; visiting the hospital, but merely walking through it. Now they require to be, we hope are, and are sure you will be, most diligent and industrious; for you will have enough, perhaps more than enough, to tax all your best energies, during the few short years of your attendance here, to acquire even that amount of information necessary to carry you through your professional examinations, and infinitely more than that before you can be said to have a real knowledge of your profession. When you consider that the medical curriculum embraces almost the whole circle of the sciences, each of which, or even a single department of which, is sufficient for the study of a lifetime, and that all these subjects have to be gone through within three or four short years, and that you are expected to know something of them all, the prospect is somewhat alarming. Not merely have you to become acquainted with the characters and forms of disease, and the methods of recognising and treating it, but as a preliminary step you have to study the sciences of chemistry, botany and natural history, and anatomy and physiology. The impossibility of acquiring more than a very superficial knowledge of chemistry, botany, and natural history in the short time allotted to medical study, in which it is of the first importance that you should gain that amount, at least, of practical information which shall constitute you safe, if not reliable, practitioners of surgery and medicine, has led to grave doubts in the minds of those whose opinion on medical education is of the greatest weight, as to the advisability of continuing these accessory sciences as an essential part of the medical curriculum. For, as regards the ultimate end of all your training—viz., the treatment of disease,—it can hardly be considered essential that a practitioner should be able to give the natural order or botanical characters of the rhubarb which he prescribes, or the class, order, and biological characters of the leech which he orders to be applied to a painful spot, any more than that the surgeon should be able to give a complete account of the metallurgy of iron, and the various processes in the manufacture of the scalpel which he uses. And no less an authority than Professor Huxley, whose life is devoted to science, would rather prefer as a medical attendant one who is entirely ignorant of botany or zoology, on the ground that one may be as good a practitioner, and in all probability better, if he has devoted all his time to the practical rather than occupied himself with the scientific branches of the profession.

But though much may be said in favour of this view of medical education, and of the desirability of concentrating the chief energies of the student on the study of those subjects the directly practical bearing and monetary value of which can be readily appreciated by all, there is great danger lest these views should carry us to the opposite extreme, and lead us to consider that the chief and highest aim of medical education is to develop a race of purely practical men, to the entire exclusion of that breadth of scientific and general culture which it has always been the boast of our profession to possess, and to which, as much as to its mere handicraft skill, it owes its high position and recent progress. It is no doubt true that it would be well if our students could all begin their purely professional studies already well grounded in those accessory sciences of which we have spoken; but I am inclined to think that the disproportion between the proficiency achieved and the time devoted to them has been greatly overestimated. If only that knowledge of chemistry, botany, and zoology is of value which is thorough and complete, then the time which a medical student can devote to them is ridiculously insufficient to enable him to reach this standard. But a knowledge of these subjects infinitely short of such a standard is, in my opinion, of the utmost value. A medical practitioner need not be a thorough botanist, an expert chemist, or an accomplished zoologist; yet the time devoted to the study of sciences of accurate observation and careful induction will have a most beneficial influence in fostering similar habits of thought in the field of every-day practice,—and nowhere are they more needed. Besides which, there are numerous occasions in medicine proper where even a general acquaintance with these sciences enables one intelligently to appreciate and perceive important relations and analogies which otherwise would be impossible. Nor would it be for the advantage of these sciences themselves if they were entirely excluded from the medical curriculum; for the great majority of the distinguished scientific names in this country are the names of those who commenced their career as medical students, or of those who in the leisure moments of busy professional life have found means and time for the cultivation of the sciences for which at an early period of their career they imbibed a liking, and have crowned their names with honour, and embellished their favourite subjects with numerous and valuable discoveries. While, therefore, there are some subjects which, in reference to the great aim of medical education—viz., the knowledge and treatment of disease,—we may, without disparagement to them, regard as of secondary importance, there are others which demand your most earnest attention as constituting the basis of all rational medicine. Where all are indispensable, it may seem invidious to single out one as especially deserving of an unusual amount of your time and study; yet, in view of the prospects of medicine of the present day, I would desire to urge in a more especial manner the claims which Physiology has upon your attention. It is quite unnecessary for me to expatiate at any length on the importance of physiology as the groundwork of all scientific knowledge of the nature of disease. The science of the functions of the body in its normal condition must necessarily precede all attempts to interpret the phenomena of diseased conditions; and it is as bearing on function that anatomy and pathology derive their chief signification and importance in medical science. I wish more particularly to insist on the necessity of a thorough study of physiology rather in reference to that which, after all, is the chief end of all your studies—viz., the treatment of disease. The tendency of modern medicine is to place therapeutics on a rational scientific basis, as contradistinguished from its present position—that of almost pure empiricism. Strange though it may seem, notwithstanding the thousands of years during which medicine has been cultivated, notwithstanding the numerous sciences which constitute what we call medical science, the term "science" is scarcely applicable to that department of it which relates to the treatment of disease by means of r-

medies. We have, in the recorded experience of past and present generations, an immense accumulation of material, valuable and the reverse, relating to the influence of drugs on the progress of disease; but we are sadly in want of accurate generalisation, and the establishment of definite and precise laws as to their efficiency and employment. "To those who are acquainted with the successive stages through which medicine has passed, and who know the modes of thought and the methods of investigation which are followed by her most active promoters, it will not appear that we are indulging in vain hopes or idle speculations when we assert that the time is not far distant when she may legitimately rank as a science. Many, indeed, will believe that we are doing her but scant justice in questioning her present claims to such a place. It will, however, only be when general laws connecting disease with health and establishing a perfectly rational system of therapeutics shall be applicable to the whole body of medical facts, that the term 'science' will be legitimately applicable to medicine. Experimental pathology, studying the synthesis of disease,—and experimental pharmacology, localising the action of drugs on the tissues and organs of the body,—are fast following in the steps of the rapidly advancing science of physiology, of which they are but departments, and, young though they are, are furnishing the materials for a real science of medicine."*

It is but right, however, to inform you that the path here indicated as that which the medicine of the future ought to pursue is not only not generally adopted, but is strongly opposed by a large class, who regard as misleading all attempts to rationalise therapeutics by reasonings and speculations founded on physiological or pharmacological experiments on the lower animals, and who look upon pure clinical and pathological observation as the only safe and sure road to trustworthy and stable progress. In support of this position, they advance, among other arguments, the mischievous and pernicious errors which the history of medicine shows to have been the result of neglecting the method of pure clinical observation to indulge in theoretical speculation and physiological theories regarding the nature of disease and its rational treatment. How much this is justified in fact will best be rendered clear by a short sketch of the development of therapeutics, and the principal revolutions which have occurred in medical practice.

The art of medicine existed before there were any physicians. Man from his first existence must have had diseases and pains, which he strove to cure or alleviate. The first attempts were rude, and confined to empiricism of a very restricted form; and the scattered observations of individuals and the collected wisdom of tribes handed down by tradition from generation to generation furnished the first rudiments of therapeutic lore. In early times the heroes and the poets were the chief repositories of medical precepts; the poets especially recording in their works whatever was curious and interesting in reference to "the beneficent art which prolongs life, allays pain, and restores health, and along with it happiness and pleasure." The priests soon seized upon the art of medicine. Medicine, like superstition, brings into action the same powerful principles, hope and fear, and exerts on the minds of men an influence proportional to their weakness, even the most enlightened being unable to resist its power. In order to establish the worship of their gods, the priests proclaimed a number of miraculous cures which were effected in their name; and in order to gain greater reverence for their art, they made it depend on habitual intercourse with their gods. They preached and practised physic at the same time. They possessed certain remedies and vaunted specifics, which were regarded as powerful therapeutic agents; but, like many in more recent times and at present existing, they owed their chief efficacy to the wonderful power of the imagination. The priests, of whom Hippocrates was a descendant, notwithstanding their superstitious views, were the discoverers of many valuable hygienic rules. The ignorance of the people had spared physicians, or those who assumed the name, from giving a more rational or intelligible form to their art, and the credulity of the public, bred of the same ignorance, had accustomed the more enlightened to a culpable system of deception and habitual falsehood. The philosophers, accustomed to system and logical arrangement, directing their attention to medicine, endeavoured to free it from its superstitious character and incorporate it into their philosophical systems. This reform was of infinite service both to medicine and philosophy; but while rescuing medicine from undiscerning ignorance, they, by combining with it their systems of cosmogony and philosophy, precipitated it into a variety of hazardous conjectures, and delivered it over from the blindness of empiricism into the rashness of dogmatism. In proportion to the erroneousness of their principles did their practical rules tend in mischievous directions. At this early period we have exhibited the evil consequences of transferring to a practical art the principles of other sciences which were themselves in a crude state; and a parallel is drawn by some between the rational medicine of the present day and the early efforts of the primitive philosophers—with what degree of justice will appear as we proceed.

Such was the state of medicine when Hippocrates appeared. He perceived with great acuteness the inconvenience resulting from the method pursued, and endeavoured to recall medicine from the path of pure speculation to "a contemplation of nature." "He saw clearly that nature pays no regard to the reveries by which we pretend to explain her operations, and that animated nature in particular has its peculiar processes, which we must study in the facts themselves, and not attempt to divine by vain conjectures or more vain calculations." Yet, oftener than once, Hippocrates himself yielded to the same predominant tendency of the human mind to theorise which he strove so much to counteract. Instead of certain doctrines which had become antiquated, or had been refuted by his own observations, he substituted others which no doubt approached nearer the truth, but which nevertheless were nothing but mere conjectures unsupported by the irresistible evidence of facts. His theories of the elements—the temperaments and the various qualities of the humours, and the way in which they were influenced by seasons and medicines, and his practice grounded on such theoretical physiology, were not free from numerous if not dangerous errors. His errors were more due to the imperfect state of the sciences which constitute the scientific basis of medicine than to the method he sought to inculcate. For Hippocrates saw clearly that medicine, to become a science, must not rely on mere empiricism, but combine the facts of clinical observation with judicious reasoning founded on physiological investigation—a method more likely to advance medicine as a science than that of the opposite school of the Empirics, which spurned all attempts to ascertain causes, and contented itself with the facts of individual unreasoned experiments. The medicine of Hippocrates is an illustration of the errors into which it may fall by allying itself with the principles of a physiology not founded on "a contemplation of nature" and on carefully-conducted experiments, but on mere philosophical speculation. Owing to this alliance medicine in a great measure continued to be a battlefield of rival philosophical schools, the principles of which led to the most contradictory methods of interpreting and treating disease. Thus the atomic philosophy of Democritus led to a system of medicine founded by Asclepiades, in which all diseases were explained by corpuscles and pores; and the same principles guided the treatment, and accounted for the action of the drugs employed. Another sect called the "Methodics" regarded all diseases as dependent on constricted or relaxed fibres; and hence they treated them with laxatives or astringents respectively, while in the treatment of chronic diseases, which could hardly be brought under either head, they had recourse to their grand remedy—the analeptic or resumptive circle, which consisted in a succession of fanciful remedies applied at stated intervals and in a fixed order.

Such and similar theoretical views regarding diseases and their treatment continued for ages to constitute the so-called science of medicine. Each age has had its own peculiar taste and fashion; and at different times medicine has assumed the tone of the prevailing sciences: it has endeavoured to speak their language, and subject itself to the same rules, so that it has passed successively through as many systems as have acquired any degree of celebrity in the world. One of the most striking revolutions in medical science was that which was effected by the development of chemistry, which was regarded by its votaries as capable of explaining every function in the body, the intimate nature of disease, and the rational theory of cure. The vital functions were looked on as the result of so many fermentations,

* Gamgee: Science and Medicine.

ebullitions, or sublimations; and the varying proportions of the acids and alkalies, whether opposing each other with violence or uniting quietly, were regarded as the chief factors in the causation of disease. Their practice was guided by these physiological views, and their whole efforts were directed towards checking or favouring the development of acids or alkalies, or modifying the degree of fermentation. For this purpose they employed chemical remedies with an unwonted degree of boldness; and while they sacrificed thousands to their reckless experiments they discovered some of the most valuable drugs which we possess, and to none more than to Paracelsus do we owe the greater number of our still highly-prized mineral remedies. These have remained, while the theoretical views which gave them birth have long since passed into oblivion and ridicule. During the seventeenth century medicine was again revolutionised by the mechanical philosophy of Descartes, and the great physiological discovery of the circulation of the blood by Harvey. In the attempts to rationalise medicine and therapeutics, geometry, algebra, and mechanics were applied with confidence by the mechanical physicians, both to explain the functions of the body and to direct the treatment of disease; and they imagined that the certainty of the instrument would be transferred to the practical results. The new light thrown upon the animal economy by the discovery of the circulation served to redouble the rage of systems. "Nothing else was thought of but to cause the blood to circulate more freely, to destroy its viscosity, to drain off from the body that which was supposed to be corrupt, to purify it, to correct it, to renew it, and to preserve the bloodvessels in a relaxed and pervious state." Hence arose the Sangrado system of bleeding and drenching, which the physicians of this school thought themselves called upon to exercise in their treatment of all sorts of diseases—a treatment which, more or less modified, long survived the theories which had originated it, on account of the beneficial results which were believed to flow from it, but which a more enlightened experience has seen fit to discard. That its victims were legion, few even of those who would reintroduce it into practice will seek to deny.

The past history of therapeutics gives us much reason to deplore the errors into which practitioners have fallen, and to which they have opened their eyes only for the most part after they have proved fatal to a number of unfortunate victims. In those sciences of which the practical application does not relate to our every-day events, or in which mistakes committed may easily be rectified, errors in theory shock the enlightened understanding; but in general such errors are not of serious or direct consequence. In medicine the case is very different. The application of the rules which the practitioner lays down is direct, and the least erroneous view leads to some consequences. We have to remember that the lives of our fellow-creatures are at stake. How many cruel and premature deaths, how many impaired and debilitated constitutions, have paid for the folly of theorists—follies which have almost always proved fascinating. "The study of a system is more easy than the investigation of nature, and in practice it seems to smooth every difficulty. The mind loves to repose upon principles which it believes itself entitled to substitute in the place of observation; and when these have been diffused to a considerable extent, and have become a sort of creed for weak and servile understandings, if misfortunes accumulate and victims fall a sacrifice under the new scourge of humanity they generally look for the cause of these evils in frivolous circumstances," and are tempted to censure the laws of nature, rather than question the propriety of their own conduct.

Thus far we have seen how well apparently the history of the various revolutions in medical science supports the views of those who regard the attempts to rationalise therapeutics as having been productive of mischievous effects and of having led men away from the observation of nature. But it must be remembered that up to this time physiology and physiological anatomy can scarcely be said to have existed, what passed for physiology being merely a system of metaphysical disputations and scholastic wranglings as to the nature of life and the essence of the living principle. It was not till the time of Haller, in the middle of the last century, that physiology as an experimental science began to be cultivated. Haller introduced the method of studying the functions of living beings by diligent observation and carefully conducted experiments, keeping hypothesis entirely in subjection to these leading principles. Since Haller's time the progress of physiology has been uniform and uninterrupted in the path in which he set out. Instead of all the processes of life being referred to an unknown and unknowable living principle, the vital functions have themselves been studied and experimented on according to the true canons of inductive research. The functions of the living body have one by one been investigated and explored; and of recent years, by the application of instruments of precision and exact methods, our knowledge of the circulation, respiration, nervous system, and the conditions of life in general, has reached a state of development which renders the physiology of past ages scarcely worthy of the name. Not that all the problems of vital function have been solved, or that the laws which have been established may be more than individual steps to higher and simpler generalizations, which shall explain numerous isolated and apparently contradictory facts; but the physiology of the present day pursues a path which is sure to lead to permanent truth, in recognising the rigorous necessity of experimental demonstration and discouraging all attempts to solve difficulties by mere abstract speculation. It is easy to trace the enormous influence for good which this development of physiology and of minute anatomy, normal and abnormal, has had in explaining and giving precision to our knowledge of the phenomena of disease; so that, whatever opinion may be held as to the rate of our positive progress, we may regard a return to the speculative and erroneous notions of the past as wellnigh an impossibility. Yet it requires no lengthened examination to satisfy ourselves that, however accurate our knowledge of the true pathology of disease and the means of diagnosing it may have become, our knowledge of therapeutics has not advanced to a like extent, and that, as far as treatment is concerned, we are in a great measure mere empirics, our only reason for the faith that is in us being that such and such a plan of treatment has been found beneficial by those who have preceded us. And yet, with all this empiricism, we observe how eagerly everyone—even the most rigid empiric, who sees in this method the only satisfactory path in therapeutics—advances some theory in regard to the physiological action of the drug which he prescribes, and the evident desire he exhibits to support his treatment on some rational physiological or pathological foundation. The backward state of therapeutics as compared with the relative advance of pathology naturally suggests that the subject is one surrounded with difficulties greater than are experienced in any other department of medical science, or that the method pursued has not been calculated to arrive at scientific precision, or that possibly both causes may be at work. That the study of therapeutics presents difficulties not encountered in any of the physical sciences is a fact the truth of which is easily demonstrated, but which is too frequently ignored in the satires leveled at the medical profession by those unacquainted with its problems. Those branches of research which aim at the determination of the simple and invariable properties of bodies, or deal with facts the mutual relations or identity of which are easily determined, or with fixed and limited data, naturally make rapid and certain progress. The phenomena of life depend on so many unexplained causes, and are liable to be affected by so many circumstances which observation alone in vain endeavours to appreciate, that the relative problems, incapable of being stated with all their data, cannot be referred to exact calculation. Nothing certainly can be more difficult than to ascertain, with regard to the medicines we employ, the real share which they may have had in the changes that occur subsequently to their use. It is no easy matter to decide whether these remedies have really had any share whatever in the production of the changes observed,—there are so many accidental circumstances which may have given birth to the phenomena observed, or at least may have modified them in such a manner as to render it impossible to discover the true cause. And it is still more difficult by this method to discover the particular property which renders any remedy capable of producing any particular effect.

Man in a state of health, and much more so under the influence of disease, presents such a complex assemblage of phenomena that the discovery of causes by mere clinical observation cannot but be slow, and always uncertain. The

uncomplicated natural history of disease is difficult to ascertain when the necessity for action is urgently enforced. Diseases vary, and have special features imparted to them by the individuality of the patient; mental emotion plays an important part in the causation, progress, and cure of the disease; so that, to allow for all and each of these, as well as many others, to estimate the exact proportion which each has had in the production of the phenomena observed during the progress of treatment, to discount the deficiencies and imperfections on the part of the observer, to eliminate all collateral circumstances of personal or other interest in the results recorded, constitute a mass of difficulty which the experience of countless generations has not yet been able to resolve. For if we are to believe the recorded results of therapeutic research conducted under such complicated conditions, we shall be obliged to admit that the same diseases have equally well been cured by the interposition of the gods, by witchery and priestcraft, by the most sanguinary and antiphlogistic and by the most mild and expectant treatment, by remedies founded on the rational pathology of the disease, by the administration of infinitesimal parts of nothing, by peppermint water and bread pills. Each and all of these diverse plans of treatment have had their advocates, who bring forward in their favour accumulated masses of testimony, the result of extended experience. With such conflicting evidence as to the value of therapeutics, need we wonder that "doctors differ" has become a byword, and that many thinking men, despairing of certainty, have rushed into inveterate scepticism as to the efficacy of medicine in general, and have assumed the position of "benevolent neutrality," declining to interfere between the patient and the *vis medicatrix naturæ*.

It is in the nature of the subject, cultivated as it has been, that such a state of things should exist; but that we should rest and be thankful, as some would have us to do, and accept as ultimate facts conditions which may be merely accidental and capable of being overcome, is hardly in accordance with the spirit of scientific inquiry. For we may be assured that the imperfections, which we all admit exist, are not essentially inherent in the subject of investigation, but in the method by which it is cultivated. We must distinctly recognise the necessity of reducing the problem to more limited dimensions, and endeavour to bring the conditions of our investigation so under our control that we may modify them at will, or make allowance for them where it is impossible altogether to eliminate them from our inquiry. We require to apply to therapeutics the same rigid system of experimentation by which the other sciences, as physiology, have reached their high state of development. To deal with human beings in this manner is obviously contrary to the whole genius of the profession, which has for its aim to alleviate pain and cure disease. If experiments have been made in former times with a degree of recklessness which cost many their lives, and inflicted much suffering on countless multitudes—experiments which have been the means of establishing many valuable results, of which we now reap the benefit,—even this age of vivisection repudiates such a course as inconsistent with the principles of true humanity. And yet, for the higher interests of humanity and the advancement of science, therapeusis stands in need of the most diligent cultivation by the most improved scientific methods. Nearly every positive fact in regard to vital function has been ascertained by the process of experiment on the lower animals; almost all that we certainly know in reference to the intimate structure of the animal frame and the real nature and progress of diseased conditions has been gained by the diligent study of the tissues of the lower animals and the experimental induction in them of pathological processes. The results of the labours of physiological histologists and experimental pathologists are being every day verified, and transferred to our conceptions of the physiology and pathology of the human frame. Why should we not follow the same course in our endeavour to arrive at a true scientific knowledge of the action of drugs on the animal economy? This is the method which the progress of modern research points out as the only one capable of furnishing that accurate knowledge respecting the action of remedies which is too frequently vainly assumed in the names which characterise groups of drugs in our Pharmacopœias—names, which imply a theory of their physiological action, founded often on the most insufficient evidence, or merely a more palatable form of expressing our utter ignorance of their mode of action. The true physiological action of the agents we employ for the treatment of disease is absolutely necessary before we can combine a rational treatment with a rational pathology. To determine this we must have recourse to the method of experimentation on the lower animals.

Against this course numerous objections are raised, and some of them are deserving of the most serious consideration. It is urged, with some show of reason, that we must exercise great caution, and as often we are told that we are not justified in drawing conclusions from the action of drugs on the lower animals regarding their action on a human being. It is an acknowledged fact that the vital processes of many animals differ much from those of the human frame, and that numerous substances which exert a powerful action on man have little or no effect on many of the lower animals, and *vice versâ*. Thus, many herbivorous animals luxuriate in, and grow fat on, substances which are most active poisons to human beings; rabbits eat belladonna with impunity, and many of the lowest organisms live on our most powerful poisonous alkaloids. Opium, which in man causes profound sleep, excites in frogs and some other animals violent and fatal convulsions; and one might enumerate a host of similar peculiarities. But though we grant these facts, we are not compelled to regard them as ultimate facts, any more than that the so-called idiosyncrasies observable in human beings are to be accepted as ultimate explanations defying all further analysis. If so, the existence of idiosyncrasies among patients would equally militate against all attempts to generalise as to the action of drugs from the results of clinical experiments. The rational explanation of many of these anomalies, already obtained by patient research, warrants the belief that they may all ultimately be satisfactorily explained. Already the ascertained relation between the physiological processes of absorption and secretion has thrown much light on many of these facts, and a careful study of the equilibrium of the vital functions in the various classes of animals has cleared up many more. Though a rabbit is not poisoned with belladonna, the drug nevertheless exerts on it the same great physiological action which it produces in man; yet the equilibrium between the circulation and the other great vital functions in the rabbit is such that the disturbing influence which it sets up in man is comparatively little felt. Opium, which throws a frog into convulsions and man into profound sleep, really acts on both organisms in a similar manner. Opium has both a narcotic and convulsive action. In man, with the highly developed brain, the narcotic action usually predominates, though there are exceptions; in the frog, with the highly developed spinal system and lowly differentiated brain, the convulsive action is chiefly manifested. Physiological explanations of numerous similar peculiarities can be offered; and without claiming that physiological research has yet cleared up all the obscurities which surround the subject, the progress that has been made stimulates to further research rather than encourages contented ignorance. No inquirer with any pretence to scientific method would think of transferring the results of experimentation on the lower animals to man without first ascertaining whether the outward and more evident phenomena caused by the administration of some drug to one of them correspond to those following its administration to a human being; or, if such facts were not to be had, he would suspend his judgment as to its action on man until he might safely ascertain whether such correspondence existed or not. But given such similarity, and that can easily be determined, unless the whole fabric of physiology is founded on fallacy and biology a myth, the establishment of the true physiological action of a drug on one of the lower animals may be accepted with confidence as applicable to man. If, and such things will always occur, too hasty generalisation as to the pathology of diseases, founded on a few questionable physiological or pathological experiments, uncorrected by comparison with the results of careful clinical research, have been made by experimenters, or much more frequently by those less acquainted with all the bearings of the facts; and if from theoretical views as to the essential pathology of some disease or diseases certain drugs, whose physiological action has been established, are confidently propounded as cures, and are found on trial to be signally ineffective,—there are, after all, fewer inconveniences attending

this mode of thinking and judging than one may at first sight be inclined to suppose, and certainly fewer than characterise the practice of the pure empiric. The ablest practitioners may be under the influence of erroneous theories as to pathology and therapeutics, and may yet have the prudence to make no dangerous application of them. A careful physician, while he confides in the certain results of accurate experiment, will not go beyond the facts which he has ascertained, and, in his treatment of disease, will never regard them as certain rules of procedure in new and unprecedented cases. His errors, if they exist, will scarcely lead to any bad practical consequences. He will never disregard the facts of trustworthy experience, but endeavour to apply them with reason; and if his practice should be novel, we will proceed with the caution of a careful scientific inquirer. The errors of the rational physician who would cautiously confine himself within these limits would be errors only for the persons who might think proper to adopt them after him, and who, not being actuated by the same views, could scarcely be expected to restrict, in a proper manner, the practical application of his principles. For the followers of a sect are always much more inclined than the founders to push systematic opinions to the most absurd extreme. Every recognised failure in the application of the principles of physiological therapeutics will be a step towards the establishment of a more accurate pathology, for the unsuccessful results will serve to show the fallacy of the pathological theory which formed the basis of the treatment. It is most erroneous to suppose, as some do, that those who advocate the cultivation of physiological therapeutics neglect or seek to subvert accurate clinical research and the results of experience. Rather they require it to be, if possible, more rigorous, more exact, and more minute, by directing attention to facts which, to the less educated eye, might seem trivial, but which may be the key to the solution of most important problems. If some have been found who, on the ground of physiological experiments which overthrow the usually accepted theory as to the action of any particular drug, think that they have thereby demolished its claims to use, individuals alone, and not a class or method, should be held responsible for such opinions. For when an extended experience has demonstrated the beneficial effect of a certain method of treatment, it would be in the highest degree illogical to conclude that, because the theory on which it is based is proved to be erroneous, therefore the treatment is so also. The most successful treatment may be allied with the most erroneous theory. To illustrate by a much quoted example. Mercury, usually supposed to be a cholagogue, is found on experiment not to increase the flow of bile. But though not a cholagogue, it is still found in everyday experience to be useful in a certain class of cases where it was supposed to act beneficially by its cholagogue action. In such a case the more philosophical course would be to endeavour to supply a more accurate view as to its real action, than argue against the overwhelming evidence in favour of its employment.

If experimental pharmacologists have sometimes assumed too dictatorial an air, and affected to disregard the teachings of accumulated experience, perhaps faults equally if not more grave might be charged against the so-called practical men—a condition of things which shows the necessity that exists for a more thorough union of the physiologist with the physician. Unfortunately, in my opinion, for the interests of practical medicine, the separation between the two has become much greater than is desirable, though much less in this country than in Germany, where the distinction between the practical physician (*praktischer arzt*) and the man of science is at its broadest. The cause is no doubt chiefly to be found in the natural tendency to the division of labour; but, while this favours the development of pure science, it does not equally favour the progress of practical medicine. It is certainly not desirable for the interests of physiology and scientific research that all physiologists should be at the same time practical physicians; but, on the other hand, it is eminently desirable that all physicians should have a thorough knowledge of physiology, not only as being the foundation of all intelligent knowledge and treatment of disease, but as enabling them properly to appreciate the value and practical application of the results of the labours of those who more especially devote themselves to the experimental solution of pathological and therapeutical problems. In this way we should have less of that tendency, which is so common, to take a part of a truth for the whole, and to found on it generalisations as to the theory of disease and its rational treatment far beyond the facts will bear, and to an extent which the discoverer of the facts himself would in no wise sanction. To such hasty conclusions those rightly object whose experience shows that theoretical notions of this sort and clinical facts are widely at variance. It is sometimes asserted by those who discountenance physiological therapeutics that, notwithstanding all the labours of recent years in this direction, little or nothing has been positively added to our materia medica, and that all our most valuable remedies have been discovered and established by the method of empiricism which the rationalists would decry. It is undoubtedly true that we owe most of our valuable remedies, such as opium, cinchona, &c., to lucky accident or mere empiricism; but it is also true, as the history of therapeutics sufficiently shows, that we owe many others, especially those of the mineral world, to chemical and other theories of disease, and that their efficacy has been established by an extensive and hazardous system of experimentation on human beings. But we cannot always wait for lucky accidents, and it is hardly consistent with the duties of our profession to experiment on our patients after the manner of former times. Yet we surely cannot affirm that diseases require no further elucidation, or suppose that every remedy has been discovered, or that we even know the real use and properties of many we already possess. There are many opprobria of medicine which must be cleared away before we can indulge in self-satisfaction at our skill. Witness those scourges of humanity, cholera, hydrophobia, zymotic diseases, &c., before which we are still utterly powerless. Are we indulging in vain hopes if we look forward with confidence to the day when the discovery of specific remedies will have deprived these scourges of their terrible sting and baneful power? It is at least worthy of our most strenuous efforts to labour for the realisation of such noble aspirations. When we look at the valuable therapeutical agents which have been introduced into medicine, as the result of theoretical considerations deduced from physiological experimentation on the lower animals, within the last few years, as compared with the results of thousands of years of mere empiricism, we have every reason to feel satisfied with the progress which has been made. The great group of the anæsthetics, one of the greatest boons to suffering humanity, and the conditions of their safe administration, owe their chief origin to physiological experimentation on the lower animals; the hydrate of chloral, one of our most valuable and much-used remedies, owes its introduction entirely to this method; the nitrite of amyl, almost a specific for one of the most intense forms of suffering to which man is liable, was deduced from theoretical considerations and physiological experiment; the Calabar bean, and many others which are now deemed indispensable to our armamentarium, are other instances; and besides these new additions to our resources, the knowledge we have acquired from physiological experiment regarding the exact action of many drugs already in our possession, has enabled us to extend their use, calculate with exactitude their effects, and prescribe them rationally; while the great facts of physiological antagonism have enabled us to counteract with the most effectual success many of what in former times were universally fatal poisons. Triumphs such as these may well encourage us to proceed; they not only justify, but, if we have the best interests of humanity at heart, render imperative continued research of the same kind in the future. Yet, in this curious age of general enlightenment and holy pilgrimages, there has been some danger lest the advancement of scientific medicine, and with it of the general good, should be discouraged, if not checked, by the outcry of a certain class of people against what they are pleased to term the inhumanity and cruelty of physiological experimentation on the lower animals. It is not my intention, standing here, to make any *apologia vivisectionis*, or to reply to the numerous attacks recently made on its advocates and prosecutors. We may rest content with the approval of those who are capable of appreciating its real bearings and the magnitude of the interests it involves, and leave others to follow. Judging from the style of objections, with which you are all sufficiently well acquainted, I should despair of convincing our opponents,

by any arguments I might advance, of the morality of a practice which rests only on a principle which is acted on, and necessarily, in almost every relation of life. But, on the other hand, we who are regarded as offenders have strong reason to feel aggrieved at the practice of those who, professing to have such delicate sensibilities, gratify their prurient propensities by prying into what was never intended for their eyes or ears, and which they have shown themselves incapable of understanding, though eminently capable of misrepresenting, and then vilify in the public prints those who may be actuated by as high principles of humanity as they who would constitute themselves its only guardians. There is an old proverb which says that certain persons should not see things half done—a proverb particularly applicable to a numerous class of people who, though they can appreciate the practical benefits which have resulted from certain physiological experiments, and therefore admit their justness and necessity, are unable to see the bearing and usefulness of certain others of a similar nature, and would make their own limited capacities a measure of the general scientific intelligence. It has even been asserted by some, as a reason for opposing physiological research, that vivisection has never resulted in any practical good, or been of the slightest service in advancing the interests of medical science. Those who make such assertions proclaim aloud to the world the most valid reasons for paying no further attention to any opinions they may think fit to express on the subject. I trust I have sufficiently shown how the advance of medicine, and therefore the interests of those who require its aid, are inseparably bound up with the science, which is almost entirely founded on experimentation on the lower animals. Those who oppose this line of research ought, in consistency, to refuse to accept the advantages of the enlightened medical practice which can be proved to be the direct result of that which they so much condemn. It is well for themselves that they are compelled to participate in benefits which, in justice, they are not entitled to. It is to be hoped, though we fear with little prospect of immediate realisation, that there soon may be an end to the vexatious opposition which has been made to the progress of scientific research in this country. But not to pursue this subject further, I have, in conclusion, gentlemen, only to say that I shall be more than gratified if in this short address I have succeeded in inspiring you with some degree of enthusiasm for the cultivation of the principles of rational medicine.

Introductory Lecture

DELIVERED AT THE

LONDON HOSPITAL,

October 1st, 1874.

BY SAMUEL FENWICK, M.D.,

ASSISTANT-PHYSICIAN TO THE HOSPITAL.

GENTLEMEN,—I know few things more difficult than to give an introductory lecture. Whatever I could say about medical education has been so often repeated, and has been told so much better than I can hope to do it, that I have always shrunk from the performance of the task.

You may, then, fairly ask, Why have any introductory address at all? Why not let each lecturer give to his students such preliminary instruction as they may require? The best reason for retaining this time-honoured custom is, that many of those just commencing their studies are not only ignorant of all the sciences allied to medicine, but are unpractised even in the methods by which they can most successfully pursue them. Hitherto their education has been restricted to languages and other branches of knowledge only requiring a quick and retentive memory for their mastery; or they have been taught mathematics, in which truths are deduced from facts intuitively recognised by the mind. But in medical science the student has to make himself acquainted with the facts from which conclusions have been derived; he has to judge how far many of the inferences he is taught are justified by facts; and he has often to decide for himself between the claims of opposing theories. It is not, therefore, surprising that many who enter upon the study of medicine with a great reputation for intellectual ability obtained in other pursuits should fail to satisfy the expectations of their friends, while others who have been previously undistinguished for talent rise rapidly to eminence and renown. Such being the case, there is good reason that we should attempt, each year, to lay before those who are entering on their professional career some remarks as to the best method of pursuing their medical studies.

The term "medical studies" will no doubt suggest to the minds of most of my hearers the two or three years during which they are compelled to attend certain courses of lectures with a view of obtaining their diplomas. Many are in the habit of imagining themselves students only till they can obtain a licence for practice, and they suppose that as soon as this is acquired all necessity for intellectual exertion has ceased. No opinion can be more unfounded. Gentlemen, you are now entering upon a career in which the necessity for the acquirement of scientific knowledge can only terminate when the career itself ceases. We can admit no distinction between the period before and after passing an examination, excepting that in the former you are answerable for the extent and thoroughness of your professional information to your teachers and legal examiners, whilst in the latter you are responsible to every patient who may seek your aid, as well as to the Creator who has conferred upon you the opportunities of gaining that knowledge which may enable you to confer health and happiness on your fellow-creatures.

But if everyone has to remain a student through the whole of his professional life, it is evidently a matter of importance to determine what are the mental faculties he should especially cultivate, in order to fit him for the performance of the duties which will devolve upon him. Now, all education has for its object either to store the mind with knowledge or so to train and improve the mental faculties that the individual may more readily acquire knowledge for himself. The former of these may be effected by the teaching of others, the latter can only be effected by yourselves; it is, in fact, self-education. The knowledge you obtain for yourselves is not only more useful in its character than what you acquire from others, but, from its being more completely assimilated, it can be more readily turned to practical account. It is of self-education, or rather of the best method of conducting it in respect to medical science, that I intend to speak to you to-day. It consists in the constant employment of certain mental powers, so that they may be not only improved by exercise, but their use may become gradually strengthened into habits. When you remember that you are just at that period of life when habits of thought are most readily formed and are most enduring, you will see that such a subject is of no small importance.

The first habit I would advise you to cultivate is that of minute and careful observation. When you look into the history of medicine, you will see that all real progress has been made just in proportion as practitioners have founded their opinions on the close observation of disease. So long as they trusted to vague speculations upon pathological phenomena, so long were their theories unsettled and their practice uncertain.

But you may say, What is easier than to observe correctly? Why trouble ourselves to make it a habit? Is anything more simple or easy than to follow the evidence of our senses? Unfortunately, history teaches us that men in all ages have neglected observation, or have allowed the plain evidence of their senses to be blinded by preconceived ideas. Let us look, for instance, at the simplest operation in surgery—the dressing of a wound. In the present day the youngest student will cleanse the wound, draw its edges together, and maintain them in contact, with a certain expectation of seeing the raw surfaces unite. Now, at all periods the natural union of wounds must have presented itself to the most careless observer. Everyone must have seen how the injuries received by the lower animals are repaired, how the hair becomes mixed with blood and forms a means of uniting the edges, and how rapidly and completely a tear or cut becomes permanently closed. But in a war-

like age, when all Europe was a camp, and when the slightest quarrel was settled by the sword, injuries were of constant occurrence, and we might suppose that the natural closing of a wound by adhesion must have forced itself upon the observation of everyone. Nevertheless, the surgeons of former days did not believe that wounds could heal of themselves. They held that every injury to the skin, however slight, must go through four distinct processes before it could unite. Under this impression they encouraged suppuration, cut off all loose flaps of skin without scruple, plugged wounds with tents of cloth or of metal, and dreaded above all things that simple and natural process of adhesion which we in the present day always encourage. To use the words of a well-known author,—"Surgeons looked upon surgery and cruelty as inseparable; and if a wound healed rapidly all subsequent ailments which might befall the patient were attributed to the mischance." Nor were these prejudices confined to the members of the profession; the public at large were imbued with the same ideas.

But you will say, such ignorance could not last long. It would be so apparent that wounds could heal by adhesion, that the strongest prejudice would be unable to prevent the acceptance of the fact. History tells us that such was not the case, but that men for a long period of time preferred to trust to authority rather than to observation, and that when a wound adhered it was attributed to some other agency than the operations of nature. For example, we find Sir Kenelm Digby, secretary to Charles I., writing a work in favour of the sympathetic treatment of wounds. He recommended that a piece of cloth dipped in the patient's blood should be placed in a solution, and then carefully kept in a temperature the same as the human body, whilst the edges of the wound should be drawn together.

In other cases the cure was said to be effected in the dry way. By this plan the weapon by which the injury had been inflicted was smeared over with a sympathetic ointment, and suspended in a warm place until the cure was completed. After this there arose another method of treating wounds, named "the secret dressing." The wounded part was sucked by the mouth of the operator, so that all blood and extraneous matters were removed; after which the edges were neatly drawn together and retained in position by bandages. The cure, however, was supposed to be effected, not by the closing of the wound, but by the grimaces of the operator; by signing the patient with the sign of the cross; and by an unintelligible jargon that was muttered over him. Now, during all this long period, while eminent surgeons were inventing medicines for the cure of wounds, and philosophers were anointing the weapons by which the injuries were inflicted, men were so little accustomed to observe, or were so biased by prejudice, that they were willing to attribute their success to any circumstance rather than that simple operation of nature which was constantly taking place before their eyes.

Many of you no doubt think that it would be impossible for such ignorance to be persisted in in the present day. This is to a certain extent true, for we are now trained to regard observation as our guide and to follow its dictates. But I fear we have still many a wide-spread belief that rests rather on authority than observation, and that many a much-prized remedy even now is as powerless over the progress of disease as was the sympathetic powder in the healing of wounds. But it is easy to show that I do not exaggerate the importance of observation, and the necessity that exists that you should keep yourselves clear of prejudice. Watch the action of your own minds, and you will see how much you dislike any subject that tends to unsettle your present opinions; how you wish to reject facts if they seem to run counter to your previous conclusions; how unwilling you are to reopen subjects the discussion of which you believe to be definitely settled. Now all science is progressive. What we regarded yesterday as a certain truth we have perhaps to doubt to-day and to modify or reject to-morrow. Every fresh discovery but leads to another in advance, and, unless you keep free from prejudice, you will be liable to be left far behind in the progress of knowledge.

The use of observation is to furnish facts from which conclusions may be drawn; but you must remember that, though your observations may be correct, your inferences may be wrong. Hence arises the necessity for testing them by experiment. In this method of investigation you can vary the conditions under which any particular fact may be observed, and by frequently altering the conditions you can often eliminate from the problem all sources of error, and thus ensure the accuracy of your conclusions.

The history of medicine abounds with instances, where unaided observations seemed to point at conclusions which subsequent experiments proved to be erroneous. A single example will be sufficient to convey my meaning. In the year 1786, a man, one evening shortly after his supper, received a severe injury on the skull. He was admitted into St. George's Hospital, and died in a few hours. The body was examined the next day by John Hunter, who found, to his great surprise, that a large hole existed in the stomach, and the remains of his last meal had escaped into the peritoneal cavity. No mark of injury could be found likely to have caused the rupture, and the great physiologist was at first puzzled to account for such a circumstance. On thinking over the case he remembered that the man had been killed whilst digestion was going on, and he was therefore led to suspect that the gastric juice had acted upon the stomach after death, and thus produced the opening which he had discovered. He examined every body brought into the dissecting-room that summer, and, after a series of experiments, he came to the conclusion, that after death the gastric juice is capable of dissolving the organ by which it is secreted, although it is unable to act upon it during life. Considerable interest was excited by this discovery, but it was soon forgotten, more especially abroad, where men's minds were fiercely agitated by political occurrences.

In the beginning of the present century great attention was bestowed in France upon morbid anatomy. Pathologists were not a little surprised to find how frequently after death the stomach presented the appearance of softening. This took place in cases in which, during life, no symptoms had been observed pointing to disease of the stomach, and they were therefore led to infer that inflammatory softening of the organ was a frequent, insidious, and most fatal malady. Sir R. Carswell, who was then studying in Paris, was made acquainted with these facts, and, remembering Hunter's observations, at once surmised that the so-called softening of the stomach was a mere post-mortem effect, and not the consequence of disease. He subjected the matter to the test of experiment. Two animals were killed during the process of digestion; the stomach of one was removed and carefully washed, whilst the other was allowed to remain in the body filled with its contents. Both were examined two days afterwards; the stomach of the last was found to be softened and partially dissolved, whilst that of the former was perfectly natural. This of course settled the question, and explained the cause of the frequency with which the softening had been remarked. Now you will observe there was no fault in this case as regards the facts, but the inferences were incorrect; and a single experiment furnished a satisfactory explanation of an occurrence where unaided observation had only misled.

But, on the other hand, it often happens that you are unable to draw any inference at all from your observations until you have explained them by experiments. No name stands higher in modern medicine than that of Laennec. By his great powers of observation and unrivalled acuteness, he not only applied physical methods of diagnosis to the diseases of the lungs, but he in a great measure exhausted the subject. He was less successful in respect to the heart. Notwithstanding that he observed and described various murmurs that could be heard when the heart was in a diseased state, his conclusions as to their significance were erroneous. After his death the same confusion as regards the diagnosis of cardiac diseases continued. Amongst those who carefully studied the subject was Dr. Hope, and he was led to suspect that the sources of perplexity arose from an imperfect acquaintance with the causes of the normal sounds. He therefore planned and performed the following experiment:—An animal was rapidly killed, and a pair of bellows fixed into the windpipe, so as to keep up respiration and therefore the action of the heart. On opening the chest, both the sounds could be readily heard. A fine piece of curved wire was then passed into the artery, so as to hook back the aortic valves. One of the sounds immediately ceased, but in its place was heard a loud hissing murmur, exactly similar to that which had so often puzzled the phy-

sician when listening to the chest of his patient. Thus a simple experiment cleared up the difficulty that had baffled even the industry and genius of Laennec, and there is now no part of physical diagnosis more easy to the youngest student than that of diseases of the heart.

I have been thus particular in drawing your attention to the use of experiments because I believe it will in the future be one of the chief means of investigation. Let us look back at the history of medical science during the present century. Within the first thirty years there sprang up a school of earnest and enthusiastic workers in morbid anatomy. In every disease the condition of each organ was carefully scrutinised, and nothing can exceed the clearness and precision with which the coarser morbid changes were described. As a result of this knowledge, methods of physical investigation were invented, by which their conditions could be accurately distinguished during the life of the patient, and to this school we owe the discovery of auscultation and the various other means of physical diagnosis. Within the second third of the century improvements in the microscope placed in the hands of anatomists a new instrument of research, which they were not slow to employ. Investigation was turned into a new channel, and the schools of North Germany replaced in fame those of Paris and Vienna. The discoveries then made seemed to have placed medicine upon a new basis, and vast were the expectations formed as to the future of medical science. Men attempted to base pathology upon cells, fibres, and granules, and hoped to distinguish diseases by the microscopic characters of their products. But where do we now find ourselves in this last third of the century? We are no longer disputing as to the shapes and sizes of the various cells, or seeking for an explanation of cancer and tubercle in the forms of their cells or the sizes of their nuclei. In morbid anatomy the harvest has been long since gathered in; we are now only gleaners in the field. Just as in former times investigations in physiology followed hard upon discoveries in anatomy, so now the functional diseases of the organs are claiming the attention of those who have nearly completed their inquiries into the structural alterations of the human frame. Still more pressing is the necessity of ascertaining what is the nature of the many changes that occur in nutrition. Look at the discussions in the medical societies during the past year. They are not upon matters of physical diagnosis, nor upon the changes in the shapes or sizes of organs; but our leading men are engaged in disputing as to the causes of blood diseases, such as pyæmia, or the nature of cancer and tubercle. And why do these discussions appear to have been so unprofitable? Simply because the various speakers have all been looking at the matters in dispute from an anatomical standpoint. They have been trusting to the microscope where new and improved methods of research are required. I believe that in the future, just as physiology was advanced by experiments and comparative anatomy, so questions in pathology will have to be settled by comparative pathology, and by physical, chemical, and physiological experiments.

But it is not only as a means of settling difficult and important points in pathology that experiment is useful; the necessity for it will continually force itself upon your notice. New remedies and new methods of treatment are daily brought forward; but how seldom are their merits fairly tested. They seem to be tried in a random way as soon as they are announced; but rarely is an attempt made to test them in such a manner as shall exclude, as much as possible, sources of error. The consequence is that an indiscriminate employment leads at first to exaggerated opinions as to their value, which is soon followed by disappointment, and often the remedy sinks into unmerited neglect.

But there is a third habit of the greatest importance which you must carefully cultivate—that of recording your observations at the time they are made. Do not trust to your memory, or write your impressions when the mind has had time to think over and explain away a fact; but put it down at once, simply and truthfully. I have been often surprised how little medical students are in the habit of noting down their own observations. In every lecture-room they may be seen copying the opinions and remarks of their teachers; but how few seem to be aware of the importance of recording what they themselves witness in the wards or in the post-mortem theatre. And yet a single fact, carefully and honestly noted, may long after prove of incalculable value, although at the time it may have appeared to be of no great importance. This might be well illustrated by reference to the history of the discovery of anæsthetics. In 1799 Sir Humphry Davy succeeded in procuring nitrous oxide gas in a state of greater purity than it had been before obtained; and he commenced a series of experiments with it upon himself. He found that when taken into the lungs, instead of causing death, it excited a species of intoxication, during which insensibility to pain was one of the most prominent characters. In the next fifty years the exhibition of the effects of the nitrous oxide was a favourite experiment with popular lecturers on chemistry, and the original experiments and observations of Davy were generally known. No attempt was, however, made to employ it as a preventive to pain until 1844, when a Dr. Wells, of Hertford in America, who was acquainted with Davy's observations, had a tooth removed whilst under the influence of the gas. The operation was performed without suffering, and the experiment was successfully repeated on some other persons. Shortly afterwards Dr. Morton introduced ether as a substitute for the gas. The results were most satisfactory, and the employment of this liquid as an anæsthetic, thus commenced, was rapidly extended. But there were many objections to the ether, and other agents capable of producing similar effects were eagerly sought for. Sir James Simpson, of Edinburgh, substituted chloroform, which soon came into general use. A few years ago the method of preparing the nitrous oxide was again improved, and it is now universally employed in the extraction of teeth and for other operations which can be rapidly performed. Now what I want you to observe is, that this, which is perhaps the most valuable discovery ever made in medicine, was the result of observations noted down *fifty* years before. The experiments were performed with a totally different object in view, and in all probability they would never have borne fruit had it not been for the careful record left us by their author. The value of recording observations at the time they are made is incidentally shown in the original paper of Sir Humphry Davy. After the first experiment with the nitrous oxide he remarks: "The next morning the recollection of the effects of the gas was very indistinct, and had not the remarks written immediately after the experiment recalled them to my mind I should have even questioned their reality." I would advise you, then, to make it a habit to note down the various facts presented to your notice. If you can collect a number of carefully recorded cases, you will find them invaluable for your present guidance and your future reference. They will often lead you aright when you look in vain for help to the works of others. But in such records you must be careful to keep your minds free from preconceived ideas. Get a habit of marking down only what you see. Keep to the simplest language, and avoid all words that imply a theory. Carefully separate your conclusions from your observations. Subsequent experience may prove the former to be incorrect; but your facts will remain good, and may hereafter lead you to results of the greatest value.

But it may be said, the kind of education you have pointed out may be all very well for the pioneers of science; we have neither the time nor the inclination to be discoverers, but are content merely to practise what we have been taught. Believe me, gentlemen, every one engaged in our profession must be a discoverer as regards *himself*, although he may never communicate to the world at large what he has learned. Every case he sees enforces reflection, and either he is daily arriving at new truths, or his trust in his former beliefs is strengthened till it deepens into prejudice. You can change the properties of matter. You can compress gases into fluids, or fix them in a solid form, but you cannot crystallize mind. Your mental powers are in a state of ceaseless activity, and you can only fit them for the discovery of truth by following the same paths that were trodden by those who have attained to eminence before you.

But many a young student will be apt to say, Is not the power of discovery the attribute of genius? How can we hope to tread in the steps of those who have left the impress of superior intellect on the history of science? Gentlemen, there is no greater mistake than to imagine that science owes her progress merely to men of great talents, or that those who have most deeply engraven their names upon her records have gained their distinction simply by the native grandeur of their intellectual conceptions. Amongst the

Alpine peasantry there is a wide-spread superstition that figures of gigantic stature occasionally appear towering high above the clouds. Travellers tell us that these so-called giants are no beings of another race, but men whose forms are magnified by the mists by which they are surrounded. So many of these great figures that look down upon us from the pinnacles of science, were, in their day, but men of ordinary intellectual stature, but are magnified through the mists of the contemporary ignorance that enveloped them. They were men who, by patient toil and long persevering industry, scaled the heights of knowledge which others had not tried or dared to mount. But, although you may lack originality or the wish to advance the progress of science, you may, at any rate, imitate the qualities for which men of genius have been distinguished. Every man of scientific renown has exhibited great industry. Without this all the genius in the world would be wasted. Aubrey tells us that the sons of Charles the First were committed to the care of Harvey at the battle of Edgehill, but that the great physician was so careful of his time that he was discovered reading a book while the action was going on. Hunter was the last to leave his museum at night, and commenced his labours in the early morning, long before anyone else had left his bed. In addition to industry, they have all possessed indomitable perseverance. Harvey remarks that when he first began to study the action of the heart, it seemed to him so complicated that he thought none but God could comprehend it. And yet, by constant perseverance, he succeeded in rendering this part of physiology so perfect that he left comparatively little for his successors to discover. Hunter used to say that he loved a great difficulty, because he knew he should make a great discovery. It is indeed strange how often we forget that all great works can only be produced by toil. When we look upon a work of art just unveiled before the public gaze, we recognise not merely the genius that designed it, but the industry and perseverance of the sculptor in chiseling the solid marble into harmony with his conceptions. But when some great scientific discovery flashes before the eye, we are apt to think only of the talents of the discoverer; we forget the labour and perseverance required to bring it to perfection.

I have been induced to lay before you the foregoing remarks because I believe it to be especially requisite in the present day to impress upon the mind of the student the necessity of self-education. Formerly too much attention was devoted to practical, too little to theoretical, teaching. Now this is changed, and we seem to be passing into the opposite extreme. Numbers are entering the profession who seem to think that books and lectures can supply all the knowledge they need possess, and that to pass an examination with credit is the only aim of their student life. Believe me, gentlemen, books can never supply what can only be afforded by observation and experiment, and we can never by any examination test the acuteness of perception and the soundness of judgment that ought to characterise the physician, or the coolness, courage, and readiness of resource that are requisite for a surgeon. These can be only gained by patient observation and by long experience. It is in affording you a field for gaining these qualities that the London Hospital is especially valuable. Already one of the largest, it will, when its new wing is completed, be by far the greatest hospital in this country. The enormous number of accidents annually treated within its walls have long rendered it famous as a surgical school, whilst the nature of the population by which it is surrounded, the immense extent of the out-patient practice, and the number of special departments will afford you opportunities for the study of medicine that can nowhere be surpassed.

Gentlemen, many of us, teachers and learners, have met together for the first time, but, if you have not altogether missed my meaning, you will have gathered that we are all students alike, and that not one of us, however accomplished he may be, can claim to have finished his task. We indeed dimly discern, at best, many of the great laws by which things mental and corporeal are bound together, and we are compelled to the utterance of truth with stammering lips, or to follow her by devious paths and with faltering steps. Nevertheless, none of us, least of all none of you, now entering with enthusiasm on the work before you, will feel fainthearted if you cast a backward glance at the history of our science, and perceive the great progress it has made. You can rest your feet upon some great truths, and from these look forward with confidence to further progress. But, whether it be your lot to add to the number of these discoveries or not, the humblest amongst you cannot fail to fulfil a great and worthy purpose in life, if he will honestly, patiently, and perseveringly strive to fit himself for the discharge of his duties in it.

Introductory Lecture
ON THE
ART AND SCIENCE OF MEDICINE.

Delivered at St. George's Hospital, Oct. 1st, 1874.

BY W. HOWSHIP DICKINSON, M.D.,
PHYSICIAN TO THE HOSPITAL.

IT falls to my lot to speak the words of initiatory gratulation to those who have come among us to-day, and to welcome them, together with the older members of our society, to a renovated hospital and a rising school.

Our patron, St. George, was a soldier of ancient fame, he was an active member of the church militant, he subjugated heathen tribes, and slew a dragon in Cappadocia; now he has beaten his sword, not into a pruning-hook, but perhaps into some instrument of incisive surgery; his camp is quietly pitched at Hyde-park-corner, and he wages no war but with disease. But never was his standard lifted in a greater cause, never were more momentous issues in question; his enemy is that crowned shadow whom mortals fear; the frontier in dispute is that of the dark monarchy from whence no ambassador returns.

"Peace hath her victories
No less renowned than war."

And it is to win the renown of such peaceful victories, to earn the oaken wreath due to him who saved the life of a citizen, rather than the laurel of the conqueror, that you have enrolled yourselves under our banner to-day.

There is no need that I should pause, even for an instant, on what must be present in the mind of everyone who is here—the supreme importance of the subject, and the gigantic interests at stake. It has been calculated with some approach to accuracy that the lapse of each second of time, or the space that I now spend in speaking two worthless words, brings the end of a human life; and of these deaths at least one-fourth are reckoned to be from preventable causes; they would not occur could we but perfectly apply the knowledge of which we are at present possessed. In England alone about 120,000 deaths occur thus unnecessarily every year; or, as Mr. Brudenell Carter has put it, a number in one generation equal to the population of London. Dealing with such multitudes, means of influencing the result, though only in small proportions, must tell upon humanity in a manner compared with which, as regards life and death, almost everything else falls into insignificance. It is estimated that 2000 persons were put to death in France during the Reign of Terror: as many die as needlessly in England every week. *Sanitas sanitatum, omnia sanitas*, may well be taken, in default of a better, as the motto of political party; and I think it will be well for the State, and but duly regardful of a waste of life which is only to be paralleled, and that but for a short time, by war on the largest scale and in its most sanguinary shape, when the profession to which we belong is represented in the councils of the nation as weightily as can be ensured by official place and conferred dignity.

The profession you have chosen is in a state of rapid transition and development, and an hour would be well spent if in it I could put before you ever so rough a sketch, if only a fair one, of the present state of the medical art, and its relation to those sciences by which it is chiefly moved.

It has happened, I dare say, to all of us to have asked our way on an unknown road, and to have been met with a

rejoinder which strikes one in the circumstances as unnecessary, "Which way did you come?" But retrospect has its use, and nowhere more than in medicine. For I fear it must be admitted that we cannot always estimate our measures so simply and so promptly by their results as to afford not to inquire somewhat curiously into the reasons which we have for adopting them; and this retrospective glance will sometimes lead us into dark ages to trace the roots of modern practice in fanciful notions by which the modern practitioner would not knowingly be guided.

Medicine is remarkable in its diverse and often contradictory associations; an art of remote, almost primeval origin, subordinated to sciences which are the veriest upstarts of yesterday, and are in a state of continual haste, turmoil, and change. "Crabbed age and youth," it has been said, "cannot live together"; nor is the society of ancient art and modern science always smoothly maintained. But we may hope, for the sake of the elder, that, whatever the differences, they may never lead to divorce.

On the one hand we have tradition and experience, possibly fallacious guides; on the other a spirit of inquiry, busy and assertive, but not always to be trusted, which claims to be directed by ever fresh insight into the workings which it is the object of medicine to control. Shall we say that our art has descended to us rich with the spoils of time, or that it has come encumbered with some of the dust of antiquity which must needs be shaken off? There is truth in either view. One man may incline more to the teaching of old experience, another to the suggestions of advancing knowledge, but wisdom lies in declining the guidance of either without the help of the other.

Ancient as is the medical art, it is surprising how little of value in practice has come to us from any very remote period. Long after sculpture and architecture had attained an excellence which has never since been approached, and literature one which, to say the least, has not been surpassed; after the republics of Greece had furnished the models of all future commonwealths, and the Roman law of all future jurisprudence, the art of healing was in a state of barbarism, or, to speak less disrespectfully, in its infancy. It was limited to a few of the more obvious of the mechanical expedients of surgery—hot iron or boiling pitch where hæmorrhage was incurred playing the part of the ligature, and to the administration in a somewhat irrational and arbitrary manner of a variety of herbs, many of which are still in use, but of which the poppy is perhaps the only one which could not well be spared. Absolutely ignorant of pathology, the ancients knew disease only by its symptoms, and were guided in the application of remedies by pure empiricism, or, in other words, by luck, chance, and random experiment. They were seldom directed by any real knowledge either of the nature of the disease or the action of the drug. But they were observant and cautious, and used their scanty information with a good sense which does not seem to have been transmitted to their mediæval successors. But century after century passed without progress, because there was no knowledge upon which rational conjectures could be founded. For a thousand years of stagnation the writings of Galen, the great compiler of ancient physic, sufficed to contain the medical knowledge and most of the medical errors of the world. For as long a time his books were looked upon as the ultimate appeal in medical questions, and carried as much authority as if credited with inspiration.

Then came a race of visionaries, some of whose teachings, and those not always the wisest, have descended to the practical men of the nineteenth century. The mediæval physician was an alchemist, an astrologer, and, in the fashion of his time, a spiritualist. We know him in old engravings: he has a celestial globe ready to his hand, and his portrait is bordered with the signs of the zodiac. When, to speak in modern phrase, he was "summoned to a case," he studied the heavens for the "figure at the decumbiture," or the position of the stars when the patient took to his bed, and formed his prognosis, not so much from the state of the patient as from the state of the sky. In directing the treatment he had regard to the planetary connexions both of the organ he supposed to be affected and of the medicine he proposed to prescribe. We pay tribute to his memory whenever we head our prescriptions, as we never fail to do, with a mysterious figure, commonly mistaken for the letter R, but really the astrological sign of the planet Jupiter, once intended as a direction to the herbalist to collect the ingredients under the influence of that planet. And in other particulars his influence is still present with us. In the doctrine of signatures he held the key of therapeutics. He believed that the world had been fashioned with especial reference to this art, and that every medicinal plant or mineral had been labeled by the hand of nature in a language which a little ingenuity enabled him to interpret. He read its use in some obvious characteristic—its source, its shape, or its colour. Thus if a thing had a yellow colour, like turmeric or saffron, he discovered in it a remedy for jaundice; if red, one for hæmorrhage. In the stony seeds of the lithospermum he saw a cure for calculus; and he collected the excrement of black birds to apply to black spots upon the skin. And absurd as this system may appear, it is but slowly dying. The Euphrasia officinalis, or eyebright, but a short while ago a pharmacopœal, and even now a popular ophthalmic remedy, appears to have no better title to its reputation than the resemblance which its elongated flower bears to the human eye; and the red rose, which, like a village beauty, owes its fame only to its complexion, is still the recognised basis of a styptic draught.

Perhaps the doctrine most fertile of erroneous practice which has come to us from the middle ages is what is called the humoral pathology. Almost nothing being known of the organic changes which constitute disease, a simple and comprehensive theory was invented to supply the want. To a certain stage of ignorance in almost everything a simple and comprehensive theory appears to be necessary. Most disorders in this view had an independent existence as humours: they could move about the body at their own will, and cross cavities and penetrate walls with an activity all their own, quite regardless of the ordinary channels of vascular and nervous communication. This view, which contains just enough truth to give long life to its error—for with regard to gout, rheumatism, and fever we are all in a modified way humoral pathologists,—has done mischief that it could not have accomplished had it been wholly false. Disease thus vacillating and erratic was, as often as it attacked an internal or an important organ, assailed with every temptation which ingenuity could devise to induce it, if not to quit the body, at least to leave its hold and fix upon some superficial and less vital part. One disorder—sciatica—was thought to be attracted by the sound of a trumpet, others by the softer notes of the flute; but reliance was mainly placed in exciting in some portions of skin which, however remote in the course of the circulation, lay near the organ thought to be troubled, a disease sufficiently like that which troubled it to be attractive to the morbid humour. And thus arose that system of counter-irritation, the unreasoning application of which has been one of the inconsistencies of this enlightened and intelligent age. The skin has been excoriated with irritating and corrosive liquids, slashed, punctured, and undermined to become the receptacle of foreign bodies; it has been carbonadoed with hot irons and burnt into holes with blazing piles of combustibles—devices more worthy of the genius of Red Indians than of the benevolent intent of one Christian to another.

I have so far traced erroneous theory to erroneous practice, not to disparage our ancestors, but to show to how great an extent practice depends upon theory, and how slow is mere experience in correcting the practice which erroneous theory has begotten. That experience is fallacious is a saying as old as the father of medicine, and therapeutical experience is, from a want of due allowance for the power of self-adjustment inherent in the animal frame, of all experience, that most liable to be misinterpreted. A man commonly has many illnesses before one kills him, of which the natural course is to health. One, like an attack of gout or of diarrhœa, may be simply a method of treatment which nature is applying to some precedent disorder, and subside when the cure is complete. Others, like most febrile and many inflammatory complaints, obey before all things the lapse of time. "Time," says Sydenham, "is the prince and pattern of physicians." His prescription is unwritten, but none the less effective; his advice is silent, but must perforce be followed. With unseen hand he amends the treatment, and, though he makes no boast, and gets little credit, he often deserves all. With his beneficent co-operation any practice not actually murderous may be followed after a season by the remission of the disease, to the credit of the practitioner and the establishment of the practice.

But, however slow to correct error, experience or observation does not fail to seize the striking and prominent facts which chance from time to time presents, and these accumulate with the lapse of ages to the eternal enrichment of medicine. The greatest of these is the use of Peruvian bark, which we learned from the Jesuit missionaries, those from the aborigines, and the aborigines, it is said, from the beasts. And other methods of treatment, some, like mercury in syphilis, of the greatest value, have been handed down to us as the results of unexplained experience, or have come by some road which we cannot now retrace.

Turning now to another view of the progress of medicine, we come to later days and different modes of inquiry. We must not be unmindful of our obligation to the old astrologer, for he was also an alchemist. In his search for the philosopher's stone and the elixir of life, he tortured matter until it gave up, if not the rudiments of chemistry, at least the errors from which those rudiments have sprung. His whole system was erroneous, but his was the error which fathers truth. But the truth was born late. It was not until the middle of the seventeenth century that Sylvius pointed out the antagonism of acids and alkalies, without the knowledge of which we should be much at a loss in dealing with some of the complaints that most often plague mankind—dyspepsia, rheumatism, gravel, and gout.

In the long history of medicine, a century appears an insignificant fraction of time. But in the progress of the sciences which underlie all comprehension of health and disease, the last hundred years may well outweigh all that have preceded. When John Hunter became surgeon to this hospital, if he gave any consideration to the air he breathed or the water he drank, he regarded them with primeval simplicity as elements.

Only since we last separated has arrived the hundredth anniversary of Priestley's discovery of dephlogisticated air, the precursor of oxygen. It was not until ten years later that Cavendish told the world that water was not, as hitherto regarded, elementary, but was composed of oxygen and hydrogen. And later still, in the year 1790, Galvani made the first observations upon the frog which led to the branch of knowledge called after his name; a branch not fruitless in medicine, though more abundant in result elsewhere.

The schoolboy who has copied plaster casts in electrotype with a knowledge that oxidation is part of the process, the unwashed and illiterate artificer who has seen experiments on the gases at a mechanics' institute, can, in knowledge of the mainsprings of life, health, and disease, look down on twenty centuries of refined art and scholastic learning.

Looking at the short space for which we have had possession of such fundamental and essential facts, we may well look to them as rich chiefly in promise—they must have time to germinate and bear fruit; but even thus far we may point to practical issues, small though they may be to what the future may bring forth. As the direct result of analytical inquiry—to mention only a few among many examples—is the treatment of diabetes by nitrogenous diet, a salutary practice deduced from chemical research. Next, we have the alkaline treatment of rheumatism—a method which has robbed the disease of so much of its pain, of its persistency, and of its remotely fatal consequences, that the observers of the ante-chemical era, could they arise from their graves, would wonder what change of type had overtaken the disorder which they described so accurately and treated so ill. And here let us devote a passing moment of grateful recollection to the physician, now no longer among us, to whom the credit of this improvement is mainly due. Chloroform, again, or rather, I should say, anæsthesia by inhalation—for chloroform is only one anæsthetic among many—is the direct offspring of Davy's investigations on nitrous oxide. And what that medicine ever gave to man should stand higher in his estimation?

> "Not poppy nor mandragora,
> Nor all the drowsy syrups of the world,"

ever medicined him to a sleep to which he owes so much; one which enables him without pain, or fear of pain, to undergo those eviscerations and dismemberments which the surgeon regards with so much equanimity and the patient with so much disquietude. And, as a corollary to chloroform, another chemical deduction cannot escape mention. The fact that chloral, heretofore only a curiosity, is converted by alkalies into chloroform, led to the inference that if this potable material were introduced into the system it must be thus transmuted by contact with the alkaline blood, and produce, when swallowed, effects like those of chloroform when breathed. The result has been the discovery of a new and now indispensable narcotic.

Besides the chemical, there is another great line of medical advance—one afforded by pathology, a science less recent than chemistry, but which is now undergoing a development as active and as fruitful in practical results. The discovery of Bright, which was made possibly within the memory of some here to-day, enabled us to regard in fresh aspects and with new light some of the most common of human ailments, and to treat them, as in the case of the various results of uræmia, with a success which was previously unattainable.

Of the microscope, again, how great have been the results in how short a time. The achromatic microscope has not been in our possession as an instrument of practical utility for fifty years. It was not until the year 1820 that Mr. Lister made the improvements in achromatic object-glasses which made the microscope extensively available for pathological research. It has given us, it may almost be said, a new sense, and I will not merely say has extended pathology into new regions, but has made pathology a new science. Like the age, it is becoming materialist. Functional or unsubstantial diseases are flitting before the microscope like ghosts at sunrise. Nervous disorders, the most evasive of all, are becoming tangible. Insanity is no longer a disease of the mind, but of the brain. The changes are none the less real because they are small and numerous. One man may be battered with a bludgeon, another stung to death by pismires, and the injury be as material in one case as the other. And other disorders of the nervous system, the paralysis anciently termed essential, tetanus, and I would venture to add to the list diabetes and chorea, are ranging themselves as the results of substantial and definite lesions. The wounds may not be as deep as a well or as wide as a church door, but they are enough. In these particulars we have scarcely got beyond the period of pure pathology, or pathology unapplied to practice; but in these instances, as in others, our knowledge of what disease actually is can scarcely fail to direct us in its treatment, either in the application of what may be beneficial or the avoidance of what can but be useless.

Another development of pathological inquiry—one of which we have already had sufficient results to lead us to hope for more—has opened to our view the large, apparently immeasurable, influence which the lower forms of organic life exert upon the fortunes of humanity. I do not allude to the scores of intestinal and cutaneous parasites which are of large size and comparatively small consequence, but to organisms whose inconceivable minuteness is strangely disproportionate to the magnitude of the results which it seems we must attribute to them. I am not going to discuss the contested doctrine of spontaneous generation. I am quite prepared to accept it when it shall be established, and to attribute as widely as may be necessary the origin which the Roman commander assigned to the animals of the Nile: "Your serpent of Egypt is bred now of your mud by the operation of your sun; so is your crocodile." Avoiding this enticing speculation, and keeping for the present to pathology, there is reason to believe that pyæmia in all its deadly varieties, the dread of operating surgeons, the scourge of armies, and, under the name of puerperal fever, the curse of lying-in hospitals, is produced by, or, to say the least, is intimately connected in its origin and transmission with, the almost atomic forms of bacteria. And to the recognition of the activity of these and such-like vehicles—or shall I call them seeds?—of disease we owe the system of antiseptic surgery and most of our present use of antiseptics. And I might give other instances, unattended as yet with therapeutical results, in which similar minute organisms have been convicted, or at least grievously suspected, of playing a part largely inimical to the human race. Ague, if the researches of Dr. Salisbury are to be trusted, and they appear to be conclusive, is directly produced by the inhalation of the spores of a marsh plant—a species of palmaria. Measles and cholera have both been attributed, though on less complete evidence, to parasites originally belonging to and infesting the vegetable kingdom; the one pertaining to wheat-straw, the other to the rice plants of the Ganges. What truth there may be in these statements time will show; but the origin of the specific fevers in growths which are foreign to the body,

but make their seed-time and harvest within it, is not irreconcileable with their external manifestations. Of old these disorders were likened to fermentations, and the finding of something to play the part of the yeast plant would make the comparison perfect.

Organic differ from merely chemical operations in this—they are subservient to time. Merely chemical operations, whether in the body or out of it, may be done slow or done fast; but growth and development preserve their own pace, and can only be slightly hastened or retarded by circumstances. The specific fevers "run their course," as the phrase is; they are obedient to date, and to nothing else. And, depending as they do on the introduction of something from without, we cannot but fancy that it may be a growing and changing organism; and in the fixed periods of incubation, eruption, climax, and subsidence of the disease, and in its reproductiveness, see the germination, efflorescence, growth, decay, and dissemination of vegetable life; and at least hold it possible that the disorders of which I speak may hereafter be traced to their hidden sources, with results at which it would be presumptuous to guess. At present, the cure of a specific fever, or its arrest, without the destruction at the same time of the organism in which it works, is beyond our conception and outside the boundary of rational experiment. But to the future all things are possible.

Along with chemistry and pathology, which relate to therapeutics in its first principles and disease in its nature, we have, by means of instruments dealing with light and sound, made corresponding advances in the art of diagnosis. I must not do more than briefly allude to the stethoscope. We can scarcely imagine a physician without one. It is as indispensable as was the gold-headed cane. Yet auscultation has sprung up within living memory, begun as it was by Laennec, and brought nearly to its present excellence by his immediate followers, among whom a foremost place must be given to two members of our own school, Hope and Williams. Nor can I devote more than a passing allusion to those instruments by which we are enabled to extend our vision into the depths of the eyeball and the larynx, and examine their condition during life with a completeness hitherto practicable only after death.

So far we have seen how the progress of medicine has depended, directly or indirectly, upon knowledge extraneous to itself. In the absence or infancy of the sciences which throw light upon it we have seen for how long a time it remained without advance, or advanced only in a fitful and accidental manner; how wholly fanciful or only half-true principles, or theories as they are termed, led to useless or hurtful practices, and how those practices, unquestioned by "the wisdom of our ancestors," uncorrected by experience, are only now yielding before the new modes of thought and new means of inquiry which science has imported into medicine. We have seen how medicine sprang into active growth with the development of chemical and physical science, which began about one hundred years ago, and that it has since, whether we have regard to our knowledge of the nature of disease or to our means of relieving it, made advances which must be held to transcend those of the whole space which separated the beginning of the last hundred years from the time of Galen, the great physician of the early Roman Empire.

But in giving the foremost place to the influence of chemical and physical science in the advancement of medicine, it must not be forgotten that, however science is advancing, it is as yet necessarily imperfect—how far imperfect we do not know. It may mislead as well as lead aright. We have seen it as a guiding star; it may prove on occasion to be an ignis fatuus. Hence the suggestions thence derived must, however gratefully accepted, be tested and scrutinised in their application with suspicious care, ever adjusting, correcting, and, where necessary, renouncing the indications of principle according to the teaching of observed results. And, apart from all principle, we must be awake to unexplained experience, and reject no truth because it is empirical or even to our view improbable, though we must on that account look the more narrowly at the evidence on which it rests. We can see sequences which we cannot explain; and knowledge thus gained is woven so inseparably with the results of deduction and research, that to reject one would be as fatal as to reject the other. Chemistry supplies us with iodide of potassium, unreasoning experience or pure empiricism tells us what symptoms call for its use. Other means of treatment—that of uræmia by evacuation, or of a perforated bowel by opium and rest—are as purely deductive as this is empirical. What experience alone can do is seen not only in the early stagnation of medicine, but in the measure of knowledge attained by nurses and quacks, who rely solely upon it. To give due place to scientific or speculative thought on the one hand, and to experience on the other, I would say that the first is the motive power, the second the controlling influence; the first is the steed, the second the bridle; with only the one we are sure to go astray, with only the other we shall for ever stand still, or at best limp on in a halting and footsore style.

Some conservative spirits, who take to themselves a title which we all hope in its largest sense to deserve—that of practical men,—assume to be superior to all theory, to despise recent inquiries of almost every kind, and to take observation as their only guide. Observation is, indeed, an excellent teacher; but practical men do not appear to observe more accurately or with a wider scope than others; their distinction lies chiefly in this, that for want of other guidance they are more largely the creatures of tradition. Theory is an idea of purpose which is inseparable from human action; practical men are as much influenced by it as their neighbours—not, indeed, by the rational principles of ripening knowledge, but by the exploded fallacies of the past. To them I would commend a saying which, as having come from the great leader of conservatives, may be entitled to their respect, "A practical man is a man who practises the errors of his predecessors."

If you would advance your art, or even keep level with the age, you must be open to receive knowledge by every avenue; discard no therapeutical suggestion as too chemical; ignore no pathological inquiry, however minute and apparently unpractical, which may throw light upon the nature of disease; do not despise, as new-fangled or superfine, any appliance which may help to make diagnosis exact; separate as well as you can observation from tradition, trust the one and distrust the other.

The first endeavour of a physician must be to acquire a knowledge of the nature and natural course of disease. Next we must know what we can do and what we cannot, recognise how far the morbid process is under our control, and beware that we do not strike at the disease and hit only the patient. In a larger proportion of cases than our ancestors supposed we have no power of cure; in such we cannot arrest the course of the disease, though we may determine its issue—to recovery by adapted nourishment and suitable adjustment of circumstances, to death by hurtful efforts to do what is not to be done. The patient may be able to struggle with his disease, but not able at the same time to struggle with his physician. In such cases, to use an undignified comparison, the place of the doctor is somewhat that of the judicious bottle-holder: he cannot stop the fight, but he may materially help one of the combatants.

Pneumonia, if only of one lung, and in a previously healthy person, will, if left alone, get well in so large a proportion of cases that we may generally reckon on this result. How the danger of the disease may be increased by calomel and antimony can be learned from our own records of twenty-five years ago. I may observe, in passing, that we largely owe this improvement to inferences drawn from the minute anatomy of hepatised lung.

There is a phrase one often hears—an excellent phrase in its way, but one which, I fear, has been the excuse for much unnecessary and perhaps some mischievous medication: "I do not know how it acts, but I know it does good." Towards the code of medical conversation I would contribute another phrase—one, perhaps, of still more wide application: "I do not know how it acts, and I do not know whether it does good or not." When such a doubt exists, give the patient the benefit of it by withholding the physic. In other cases we can do more. To wait upon nature is too often to wait for death. To treat expectantly is too often to be justly expectant of failure. Nature, however well-intentioned, is not always beneficent, and it is fortunate that we can sometimes cut short, or change the tenor of, her performances. Timely digitalis or timely venesection may give a new lease of life to the owner of a damaged mitral valve; timely alkalies might have saved the valve and prevented the need for either. Whether a

collection of pus in the pleura shall prove fatal or harmless may depend upon whether it is detected and withdrawn; and if withdrawn, with what precautions. The life of a child may hang upon a nice distinction between croup and diphtheria, and the question thereon impending whether to give or withhold antimony. And I might dwell at length either upon what we can do or upon what we cannot. I might show in detail, did time allow, how often the safety of our patient depends upon our interrupting or diverting the course of his disease, and how often upon our being judiciously subservient to it. To do the best that can be done we must bring all available knowledge, from whatever source derived, to bear upon the essential nature and working principles of disease—its causes, with a view to prevention; its course, in regard to its inherent tendency to recovery; and its nature, with reference to its possible amenability.

Let us be no mere distributors of salves and potions, for everything its remedy, and half the remedies delusions; but while we practise the art of medicine, let us study the science of disease; and accept promise of unbroken progress and increasing utility in association with that knowledge of universal nature, ever widening and deepening in all her modes and results, which is the glory of the age and the hope of the future.

Abstracts
OF THE
INTRODUCTORY LECTURES
DELIVERED AT THE
VARIOUS MEDICAL SCHOOLS OF LONDON
AT THE
Opening of the Session 1874-75.

GUY'S HOSPITAL.

INTRODUCTORY LECTURE BY SIR WILLIAM GULL.

SIR WILLIAM GULL, after expressing his sense of the honour conferred on him in being appointed to deliver the inaugural address, and giving a kindly welcome to the students, went on to say that the study of medicine ranged through human nature and into nature in general. It looked at man in every aspect, and had this great collateral advantage for its followers, that, in pursuing it, they are learning something of themselves. What this advantage may be to medical students is not to be calculated, if it duly impress them with the fact that the laws of human health in its widest signification are part of the laws of moral and intellectual life; that indulgence, sloth, and vice, are as contrary to our lower nature as they are to the higher laws within us. The medical student had peculiar advantages; and there was nothing in his studies to limit and contract his feelings or his sympathies, nothing to make him take a low and unworthy view of man or of his destiny; but, on the contrary, he who is most occupied with disease and death will have the truest idea of life and of all that contributes to it.

It was a common error with young students to think that it was only by some strong intellectual effort that good work could be done; whereas, in truth, it was more through patient and well-directed labour. If the first lesson be patience—a patience which knows how to work and wait, undismayed by what looked to be insuperable, such a patience as even Newton required and practised when he told us that he learned to keep a subject before him, and to wait until, by slow degrees, light dawned upon it; the next lesson was docility, a readiness to learn at any source, not fastidiously or delicately, not where it may please them, but wherever the facts lay hid.

The student's training of to-day must at every step be directed by the light and checks of science, and his acquirements must go hand-in-hand with that high mental culture which could alone enable him to apply his knowledge successfully. If, in what had to be done mechanically, technical rules for action could be given, it was not so when living processes had to be dealt with; for then there had to be exercised the power of judging of the value of the known as against the unknown, and of deciding for or against many obscure probabilities. The voice of pure science would be for waiting for certain light; but suffering humanity had stronger claims, and could not wait.

In the high object of medicine lay its greatest danger. The stimulus and the natural desire to act were mostly out of proportion to our knowledge and means for action. The motive to do something was but too apt to tempt to pretence of knowledge, which necessarily perverted the science and practice of medicine. He warned his hearers against the dangers of charlatanism, and to neglect no means, to despise no service, which might be necessary to promote the successful operation of their knowledge, and yet to guard against ignorant and trifling interference, of which the least that could be said was that, if not injurious to the patient, it spoiled the practitioner.

The dogma that man's power and knowledge are limited by his observation of the course of nature could not be too plainly impressed upon the mind of the student of medicine. It might well be written in letters of gold in every medical theatre. "The first aphorism of the *novum organon* sounds clearly the note in harmony with which medical studies must be conducted, though the limits of scientific knowledge are not the limits of hope and belief, even in the driest minds. They supplement and aid the powers of observation everywhere. The purest physicist works his way into the unknown by hope, and entertains a belief much more comprehensive than his knowledge.

"The expression 'order of nature' indicates a rule which, in one aspect, is the most hard and inflexible. Amongst all the ever-changing phenomena of nature, in all her forms and moods, it asserts that there is an unvarying oneness beneath. The harmonies may be infinitely varied, but the vibrating chord is unchangeable. Realise, if you can, what a paralysing influence on all scientific inquiry the ancient belief must have had which attributed the operations of nature to the caprice, not of one divinity only, but of many. There still remain vestiges of this in most of our minds, and the more distinct in proportion to our weakness and ignorance. It still opposes a hindrance to knowledge, and resists the conclusions of experience. In fact, few really believe in a fixed course of nature; none, indeed, but they who have undergone much mental discipline. I say that, in one aspect, the course of nature is unvaried. The materials, the material atoms as we now think of them, the physical elements, as they are called, are believed to have constant qualities. What these qualities are we only know very imperfectly, but, as far as our acquaintance with them goes, they are not subject to any variation. The variations in phenomena are the variations in their combinations or the variations of their relations; but in the substratum itself there is no variation, nor any in the resultant where the conditions are the same. That is the law of nature; but obviously its course admits of infinite variations. What are the changes that can be rung on twelve bells used to tax our boyish calculations; but what are the resultants when twelve elements combine in infinitely changing proportions, who can express? Yet still this is but a part of the problem of the play of the physical atoms, which, far from being dead things, are centres of active powers expressing themselves in various ways, of which we know at present only some, under the form of motion, heat, electricity, and magnetism. That the course of nature may be varied we have assumed by our meeting here to-day. The whole object of the science of medicine is based on this assumption. It is the whole purpose of our knowledge to find out and obviate what is inimical to our systems, and to discover and promote what is favourable to us. It is difficult to form even an imperfect image of the course of nature in a living thing. What we call our health, and which looks so fixed and stable, is more changeable than the stability of the rainbow. Its maintenance depends upon the moving equilibrium of more forces than the mind of man can realise. The inorganic elements make a constant war upon us, and yet maintain us by the strife."

The lecturer then went on to speak of the course of nature in disease. "Diseases, like other natural facts, require no peculiar mode of study. No doubt but that the personal interest we have in them does much to hinder their due in-

vestigation, and surround them with a mysteriousness which is not essentially belonging to them. Man is naturally unwilling to feel himself but a part, though the highest part as yet, of the course of nature, however deeply he may be convinced that all is ruled by the wisest Providence. He desires to feel himself an exception from the common laws of nature. There is essentially the principle of fear in all living things. Its physical expression is the shrinking of a piece of living jelly when it is touched, or the closing of the eye to a particle of dust, and all the like phenomena. The fear of change is essential to the safety and growth of a living thing, surrounded as it is by causes which are calculated to invade and destroy it. It is the groundwork of that struggle for existence through which all living things have advanced, and is in another form the chief spur to the human intellect.....

"I have tried to indicate, though very imperfectly, the character and scope of your work, and the temper of the intellect in which it must be conducted; and now I must add a few words on the method of it.

"First of all, resolutely determine that you will never be satisfied with second-hand knowledge from lectures or books where it is within your power to get impressions directly from the objects themselves. The necessity of this is the ground of your having to come to a medical school. Anatomy, chemistry, practical physiology, morbid anatomy, and clinical medicine are not studies you can acquire any proper knowledge of through books or descriptive lectures. The things must be seen, handled, analysed, and dissected by yourselves. They require of you a personal and intimate acquaintance to be of any practical good. Words and descriptions, good as they are, after you have acquainted yourselves with the things themselves, are always ready to come between you and the objects, and to dim your impressions of them. Many a man, most of us indeed, go through the world without ever coming into scientific contact with the things in it. We look through the eyes of others. Our impressions and thoughts are mostly but shadows of shadows; no wonder, therefore, they are so inconstant and confused. Why, I might ask in all simplicity, have you eyes if they are not to be trained for the purposes of your profession? why touch, if not to be used in detecting injury or disease. The senses and the mind are active powers which call for due objective exercise. Medical study is a mere pretence without it. You do not come here as passive receptacles to be filled through books and lectures with a complement of so-called knowledge which shall fit you to answer questions. Happily, the times for this are changed. Examinations themselves are passing from the verbal to the objective stage, and nothing can supply the student with so practical a stimulus in the right direction as this change. I will not say anything to lessen the value of lectures. In some points lectures are indispensable. Many of them are demonstrations of facts, where you are shown at the same time the method of inquiry and the results of it. In a lecture, you have also the teaching by personal influence which is invaluable. Example is contagious, and descends from teacher to pupil. This accounts for those fertile spots in literature and science which spring up from time to time. This it is which gives a character to a school.

"As to books, for the most part, read the most recent on the subjects you have to study. Knowledge in every department is growing fast. A book on physiology or practice of medicine soon becomes obsolete, or ought to be so. Hospital reports, journals, and year-books are, for a profession like medicine, invaluable. Their flourishing existence is a sign of activity and progress; they store up our gains and afford the soundest materials in the literature of our profession; a source from which the best treatises on a subject are produced.....

"You and your friends will perhaps say that the time here for acquiring a comprehensive, together with an exact acquaintance with your subject, is too limited; that you do not come to the hospitals to be chemists and biologists, but practitioners. This I admit to the full; but at the same time, from the nature of the subjects themselves and in the presence of that wider individuality of which I have spoken and which often connects the farthest fact with the nearest detail, it must be maintained that to know one thing well you must know its relations to many others. This truth in respect of man is the chiefest. Most of our errors respecting him, whether in regard to his bodily or his mental organisation, have arisen from experience gathered in too narrow a circle, and, therefore, fallacious. As to time, the shorter it is the more important that the method of study should be intelligently arranged. Acquaintance with known facts, if undertaken practically and under good direction, though slow at the outset, is in the end a saving of time, because the results on the mind are more lasting and fruitful. If medical education had for its end only mechanical operations, I grant it would not require more than a technical acquaintance with details; but neither medicine nor surgery is a mechanical art, though the uninitiated public regard them so. So they regard the body as a piece of very good carpentry and joinery, and think any one of its organs, like the wheel or piston of an engine, can be mended by medicine duly prescribed. Such ignorance is easily satisfied. It is not for its satisfaction that medical studies are required at all. It very rarely occurs in the practice of medicine and surgery that merely mechanical performance can fully meet the conditions of a case. When it can, the man who does the mere mechanical operation most often will be likely to do it the best. Nor should this excellence be depreciated; but when the treatment of disease ceases to be mechanical, we require for its proper direction a very different mental cultivation. It is the admission of this which is advancing the study of medicine, and from which we may with full assurance augur a greater future.

"With all the extension of knowledge, the student of modern medicine has a far more advantageous position than his predecessors. The facts you have to learn are better known; the relations of your subjects have become more fully illustrated by collateral knowledge; the limit of our ignorance is more defined; the general public are better instructed, and, therefore, more able to appreciate sound knowledge; authority and so-called experience, the 'wig and cane,' are less imposing; and the well-informed, though young student, begins his career of practice under favourable auspices.

"To repeat, the end of medical studies is not to satisfy the ignorant, but to satisfy the requirements of science. I am conscious how unequal we are to this, but we need not be unequal to the duty it imposes. With all care you will find it difficult to keep the mind even to its duties under the disturbing influences which are necessarily associated with human suffering. He does well

> 'Who, when he is to treat
> With sick folk, women, those whom passions sway,
> Allows for that, and keeps his constant way.'

"If I am oppressed with the feeling of having but too imperfectly indicated the spirit in which you should enter upon your medical studies, I satisfy myself with the reflection that you will be more effectually aided and directed by your teachers in the several departments. I know, from long and intimate acquaintance with most of them, that they will not fail to impress upon you the importance of applying yourselves to your work in a scientific spirit. They will insist upon the fact, that you can fit yourselves for the practice of your profession only by sound intellectual training, as well as by an accurate knowledge of details; they will caution you against substituting words for things; they will tell you that the most important part of your work is of a humble kind, consisting of an acquaintance with the proximate conditions of life, and not with the unfathomed, and perhaps unfathomable, metaphysics of it. Their object will be so to instruct you that, whilst you are not deficient in any part of that knowledge which is open to you as medical practitioners, you will still be aware of your ignorance, or what should restrain you from futile attempts, and from becoming believers in some fanciful theory or other, springing out of too limited observation. The chemist will descant on the nature of atoms, and exhibit to you many of their properties; but he will have to point out, as I have already said, how much we have to assume respecting them, and that they are still very mysterious essences. The anatomist's task will be the most satisfactory, because our knowledge on that subject is the most complete, and admits of some *rationale*. The physiologist has a harder and drier duty in pointing out the development of the organs, and the combination of their functions into an organic whole, since if he lapse—as who can at all times help it?—into theories of the 'Why,' he will be apt to weaken the directness of observation upon which you

must build, if you build securely. The task is severe, but he has shown that his strength is equal to it. Then comes the pathologist, on the nature and course of disease, proving it to be mostly but a part of physiology. After these, therapeutics, happily much less encumbered than formerly with a farrago of nostrums, since pathology has taught us that the processes of disease have often a conservative tendency, and that frequently our duty is to do no more than prevent violent interference. When and how we can do more it is the great object of therapeutics to point out.

"Of the study of the practice of medicine and surgery, everything around you here speaks at all times and invites your attention. The several departments of the hospital afford the rarest opportunities for acquaintance with accidents and disease in all forms; and if a knowledge of the practical parts of your profession cannot be gained here, it may be certainly said it cannot be gained elsewhere.

"I look back with pleasure to the time when I had no world but the wards of this hospital, and often regret I am now so separated from them. All the success I have had springs from Guy's, and here are my early and best associations. I cannot therefore but feel as one of yourselves. I could wish it were again my lot to work with you, but the time is passed, and younger and stronger hands will direct you, whilst it only remains for me to cordially wish you success."

CHARING-CROSS HOSPITAL.

INTRODUCTORY ADDRESS BY DR. DOUGLAS POWELL.

AFTER some preliminary remarks, Dr. Powell observed that it was, perhaps, only on hearing the usual but none the less sincere congratulations upon the nobleness of the profession they had chosen, which were always offered to them upon these occasions, that students first questioned themselves curiously as to how they came to choose the medical profession; and the question, What is the use of it? might to them at first appear a little staggering. For merely to say that the profession existed; that, of its superabundance, civilisation had yielded a fund for the lopping of overgrowths, the repair of degenerations, the preservation of buds and cuttings; and that thus doctors, as cooks and confectioners, were but the results and servants of luxury,—was not a sufficiently encouraging answer to urge them onward. Nor, although a contingent pleasure, was the occasional sense of gratification that the immediate object of their lives was the relief of pain and misery, sufficient to justify to them their profession as a great one. It was too fitful and fleeting to sustain them to any high purpose, and was rather an element of over-anxiety and weakness if it held too high a place in the mind of the physician. On looking higher still for a worthier motive, they were met by the protest of some who would thrust them back again amongst the cooks and confectioners—that, by ameliorating the conditions of life, they preserved the feebler members of the human race at the expense of the strong, *leveling down* the whole human constitution by diluting the life of the strong with the lesser vitality of the feeble. He need not pause there gravely to contend against the futile notion that it would be possible for us to interfere with such laws of nature as determine the survival of the strongest. Such laws could not, however, be construed to mean that life was the exclusive right of those who had most of it! The laws of nature, "bound fast in fate," were not to be changed by human will; but it seemed obvious enough that by improving the general conditions of life we acted with those laws, and upheld, if he might so say, rather than let down, the vitality of the race; for every evil condition that would extinguish a weak life would damage, if not disable, a strong one. Proceeding to regard the matter from another aspect, Dr. Powell contended that in the intellect or mind of man we found a new Force, having, within wide limits, the mastery over other forces, and, unlike them, capable of continued growth from generation to generation, and that the true aim of civilisation—a great scheme of Nature in which we but took our part—was towards the attainment of a higher development of the intellectual and moral elements of our being, to the crowning with God-like wisdom and grace that human form which, in muscle and bone, and nerve, was as perfect centuries ago as now. He doubted whether in this direction any man had ever lived whose life had not contributed directly or reflexly to human advancement, the weak being the hostages of the strong, to bind them to industry, to lessen violence and strife amongst them, and to humanise them. The ascertainment and maintenance then of the laws of life and health, mental and physical, under all the increasingly complex conditions of human existence, was a worthy and sufficient *raison d'être* for ours as a profession, being, in other words, the maintenance of the best bodily or material conditions for continued intellectual growth. In illustrating, in this point of view, the *educational* work before them, Dr. Powell quoted a recent article in *The Times* on the death of the late Dr. Anstie, saying that "science has yet to make itself heard and believed by the mass of even the educated public," and pointed out that it was only by the individual efforts of medical men, each amongst his own *clientèle*, teaching the laws of health, and the danger of neglecting them, that public opinion would ultimately be set right on such matters. He observed that a course of lectures on Public Health, commenced last session at Charing-cross Hospital, would be continued each year, the better to equip them for this good fight. The physician had sometimes to contend, however, against other agents, more subtle than material poisons, since they lurked in each human breast, at which he would but briefly hint now. Might we not sometimes warn in time, "that way madness lies." The passions and emotions were not mere storms in some independent ether, but were physiological, amenable to education, correlative, perhaps even interchangeable. Their want of early control might lead to crime in one generation, or to mental feebleness, or some form of insanity, in another. The hereditary descent of peculiarities of character was an interesting subject for further study with a view to improved education.

Dr. Powell next urged upon his hearers the importance of early establishing for themselves a good tradition to which they would find it comparatively easy to remain loyal. He thought astuteness and decision of mind, the habit of thinking out everything to a conclusion, so attractive and commanding in the man, was particularly valuable in the professional man. He dwelt on the importance of note-taking and personal examination into everything as the best means of gaining early real experience, and the safest antidote in practice to that indecision of mind against which he had already spoken. He warned senior students particularly against neglecting any branch of medical study; a man could only legitimately become a specialist after having thoroughly acquainted himself with the principles of medicine and surgery as exemplified in their every branch and department. Most of them would practise in every branch. Mentioning especially the diseases of women and children as being branches of study often somewhat neglected by students, he observed that the reflex phenomena of disease, which make up a certain portion of the symptoms of all diseases, were often most clearly and simply presented to us for study in these departments, that a good knowledge of children's diseases was the very alphabet of medicine, teaching us the resources of nature, and how best to aid them by rest, diet, nursing, and medicine.

Dr. Powell concluded his address by commending the poor to the care of those about to pass on into practice. Amongst the poor the chief work of our profession was to be done, our chief experience gained. We had to try to raise them from their present state of sanitary discomfort and degradation, to aid and protect them by our watchfulness and advocacy in obtaining and maintaining for them due sanitary reforms. We might greatly help them by teaching them to help themselves, and he hoped all having the opportunity would work hard in this direction, and do their best, each in his own district, to encourage some provident form of medical relief for the sick poor.

ST. MARY'S HOSPITAL.

MR. EDMUND OWEN'S INTRODUCTORY ADDRESS.

HAVING expressed his appreciation of the honour which had been conferred upon him in being charged with the responsibility and pleasure of thus opening the new medical year, Mr. Owen said that he should confine himself to addressing the students on subjects connected with their medical education. He considered that a man must be

born with a taste for practising the healing art quite as much as the poet for his art. He said that the next three or four weeks would find the students very eager at their new duties, and that, thinking the day not long enough for all they had to do, they might have recourse to the midnight oil; that they would be found taking up their places in the front rows of the theatre, and working diligently in the dissecting-room and in attendance on hospital practice. All this was with good intent, but then would come the reaction. He cautioned them thus against excessive zeal at first, and also on presuming upon a little professional knowledge that they might have obtained before entering at a medical school. Men possessing that "dangerous thing" were apt to fancy themselves of an advanced and practical nature, and to express contempt for those educational paths which they might deem to be proper enough for less fortunate students. He was glad to see that the old system of apprenticeship was dying out, for by it boys were often pushed into a surgery when they ought to have been at school.

Mr. Owen gave some practical advice upon the way in which the study of anatomy should be undertaken, saying that there was but one way of learning that science properly, that of diligent dissecting. He admitted that now and then men could pass a hurried examination in the subject without having dissected much, but they met more often with a retributive fate. The student must recollect that passing an examination in a subject and *knowing* that subject were very different affairs, and that, after all, he did not enter a medical school merely to scrape through a series of examinations, but to learn the groundwork and superstructure of a grand art. He spoke with regret of the custom adopted by a certain class of students of waiting till their examination was close at hand before commencing to work for it; in fact, exercising their intellectual faculties against time. He advised the student to work steadily on from the commencement, and to let his information be as practical as possible. It was no use saying:—"I will build up theories now, and work them out in practice afterwards." Let him rather be practical than theoretical, for the practice would serve him in better stead in that day when he should find himself alone at the bedside of a patient in a critical condition.

In speaking of the growing "special" hospital evil, Mr. Owen said such institutions were often the speculations of too eager practitioners, who carried out a system of charitable abuse under the auspices of a blinded philanthropist. But what chiefly concerned those present was the result which their specious advertisements had in drawing away from the wards of a general hospital certain classes of diseases which were much needed for clinical instruction, surmising that it would soon be necessary for students to go to one hospital to see an affection of the throat treated, to another for the heart, to another for the skin.

After some remarks on the relationship existing between science and religion, Mr. Owen brought his address to a close by calling attention to the first aphorism of Hippocrates, and by giving the corresponding thought from Longfellow's "Psalm of Life."

MIDDLESEX HOSPITAL.

INTRODUCTORY ADDRESS OF MR. ANDREW CLARK.

AFTER remarking that medical men looked forward to October 1st as an important anniversary, being the day on which they commenced professional life, the lecturer more particularly addressed himself to the junior students, for whom he considered introductory lectures were intended. He reminded them that they had a life of hard work before them, not of ease and luxury, but, nevertheless, of pleasure and happiness if they were fitted for the duties they would have to perform. He referred then to the different branches of the profession; and, in speaking of the navy, hoped that the present unsatisfactory condition would not continue, lest the service should fall into disrepute, as the future efficiency of the medical department would then be at stake. He next spoke of the importance of the study of hygiene and public health, remarking that at the Middlesex a separate lecturer on that subject had recently been appointed. He referred to the opportunities of advancement in the profession, remarking that the highest offices in the hospital were open to any of the students if they would only seek them by diligence and hard work.

The students were urged to bring to the exercise of their duties charity, and the lecturer particularly referred to this because he thought the members of the profession did not exercise such a charitable feeling towards one another as they ought, self-aggrandisement, he feared, being too common. Referring to their studies, he said they must acquire a practical knowledge. Anatomy was to be learnt in the dissecting-room, and nowhere else, where three hours daily at least should be spent; materia medica was to be learnt in the museum or dispensary, where specimens of all drugs were to be found; and practical medicine and surgery, pathology and therapeutics, in the wards and post-mortem room of the hospital. He advised the students never to miss an opportunity of going into the hospital after beginning their four years' study, and not to wait until they had passed their first examination, which left in many cases but eighteen months for clinical work; at the same time he would say that if a year could be spared for preliminary scientific studies at the commencement before registration, so much the better. They were advised as early as possible to hold offices in the hospital; if they had seen any practice, to become at once out-patient dressers; and in those offices they must remember that they had the good of their patients to consider as well as their own, and that though the penalty of being a hospital patient was submitting to being made use of for purposes of instruction when no harm was likely to ensue, they must always remember this must not be done if pain was produced, or life in any way endangered.

It was pointed out that cramming, though much in vogue at present, was not necessary for the ordinary examinations, and those who get through by its aid could hardly be efficient practitioners. Students were urged to attend the class-examinations which were held every six weeks; those were not to be deterred who felt they could not get the prize, as their object should be exercising the faculty of thought and acquiring a facility in writing.

The Medical Society was next referred to as being over a hundred years old, and the first-year's men were urged to take the same interest as their predecessors in keeping it up, both for their own and successors' sakes.

Speaking of recreation, the lecturer said he feared sports and pastimes were competing too successfully with studies in our schools and colleges, and he wished to impress upon his hearers that now they must make up their minds that amusement shall be secondary to work.

Allusion was next made to the death of Dr. John Murray, whose bust had been recently placed in the museum, and a scholarship founded at the University of Aberdeen, open, under certain conditions, to Middlesex men. The students were urged to make the most of their time, to think of the great discoveries of Harvey and Sir Charles Bell, who for twenty-two years was surgeon to the hospital, and others, and to recollect that they all had the same opportunities. The lecturer concluded with the well-known lines of Longfellow, beginning

"Lives of great men all remind us."

ST. THOMAS'S HOSPITAL.

INTRODUCTORY LECTURE BY MR. WILLIAM MAC CORMAC.

MR. MACCORMAC, after some preliminary remarks, dwelt on the fact that the student must not depend exclusively for instruction on others, but must also, and most patiently, learn to instruct himself. To do this efficiently he should have received a well-grounded preliminary culture. The lecturer pointed out that without such previous training a man is liable to be distanced in the race of life, that the student who finds himself required to fill up the deficiencies of a defective education, as well as to master the intricate details and manifold bearings of a great profession, will prove too heavily weighted either to do justice to himself or the calling he has chosen. Mr. MacCormac combated the idea that in respect of the task before him the termination of the student's career will see the end of his exertions. He showed that excellence is not thus to be compassed, but must be aimed at, struggled for, without end. He pointed out

that effort itself confers a sure reward, a disciplined intelligence, and a well-directed will. He adverted to the relations of the teacher with the taught, the genial bearing of the one influencing the apt intelligence of the other—that there is between them a community of purpose which, rightly exercised, will lead to the best results, and that the student has no better friend or confidant than his teacher.

The long career of the ancient foundation of St. Thomas's afforded Mr. MacCormac the opportunity of giving some interesting details of the position of surgery and surgeons in bygone days—that there was specialism, and of a very bad form, then as now. He pointed to some of the extravagances that were then committed, and the absurd length to which the belief in certain remedies was carried; quoting the somewhat amusing instance of a physician who, having refused to be bled in his extremity, was anathematised with the depletion which it was hoped he might have to undergo in a different world. The lecturer forcibly dwelt, however, on the debt of gratitude due to the worthies of the past, and to the immense difficulties which they not only encountered but overcame, and urged his hearers

"Ever to be mindful of the faithful dead."

Mr. MacCormac was justly appreciative of the enormous contributions made to modern science on the part of Continental practitioners, and dwelt upon the necessity of an acquaintance with the languages in which those labours are recorded. "There are," he said, "workers everywhere; but how are we to benefit by their work unless we understand their language? We may, indeed, avail ourselves of translations, but these at best are but diluted transcripts, bereft of all the life and verve of the original, and mostly come too late to prove of much advantage. We are, in fact, somewhat prone to wrap ourselves up in our insularity, if I may adopt the expression. Insularity may be an admirable thing geographically speaking, but in science it is too often fatal." The long list of names—too long to enumerate—of German, French, American, and English surgeons, to whom surgery and the world were indebted, was securely registered in the record of their fame.

The great efforts which had been made to mitigate the horrors of modern warfare were spoken of in Mr. MacCormac's address; and he enlarged on those efforts as one may who has witnessed something of the evils they are intended to assuage. He showed how much our times are in advance of the past, but he also showed how even the immense resources of modern military surgery find themselves unequal to cope with the horrors of such modern battle-fields as those of Mars la Tour and Gravelotte, when 42,000 men fell, dead or wounded, on the German side alone.

In conclusion, Mr. MacCormac urged the student to cultivate, at once as a solace and recreation, some pursuit not immediately bearing upon his profession. He pointed out that of many within reach none is perhaps better deserving attention than the cultivation of general literature, which, as Sir John Herschel has said, places its possessor in contact with the best society of every period of history, makes him a denizen of all nations, a contemporary of all ages.

UNIVERSITY COLLEGE.

INTRODUCTORY LECTURE BY DR. ROBERTS.

THE lecturer, after a few prefatory remarks, drew attention to the remarkable progress which had taken place in the medical profession as a science and an art. Instead of considering this subject at any length, however, he thought it would be of more service to those for whom his remarks were intended if he were to discuss certain questions bearing upon the position of the profession, its internal organisation and external relations, and upon medical education and examinations. Perhaps it did not matter much whether they, as students, were up in all the latest theories, or were acquainted with the most recent researches; but it made all the difference in the world whether they were turned out, at the end of their career, at all competent to practise their profession, and whether they had correct notions as to the position of their calling, its relation to great questions with which it was concerned, and their responsibilities and duties in connexion therewith. His conviction was that it did a great deal of mischief to allow those who intended to enter the profession to lie under sentimental notions as to its nature and position. Essentially, and in the abstract, the "doctor's" calling was everything that ever had been, or could be, said in its praise; but at the same time, when realised in daily life, with its many difficulties and annoyances, with its dull and wearying daily routine, it might come to be regarded as not much, if at all, above the common level; what was worse, the conviction might be forced upon them that their calling was not quite so honourable as they were led to believe, while they could not avoid noticing that its external relations were extremely unsatisfactory in many points of view. Things were certainly better than formerly, and there were signs of still greater improvement, but there was a vast deal yet to be done in the way of reform. The general social status of the medical profession was not nearly what it might be, and even its most illustrious members could only rise to a comparatively inferior position of eminence. In connexion with the army and navy medical departments there were real grievances of a most serious character. During the last year this country had been engaged in a war emphatically called a "doctor's war"; and, while honours had been deservedly showered down upon others, the doctors were left pretty well out in the cold. The Poor-law service was in many parts in a decidedly degraded position. Politically they were simply nowhere, outstripped in the race by almost every other class of individuals, headed by the publican and so-called "working man." Their interests as a profession were not considered as deserving of much notice; even in such questions as those concerning sanitary matters, the opinions of men who, from their official position, were expected to advise on these subjects, had been quietly ignored, or sometimes insolently repudiated. The lecturer then went on to remark that it would do no harm if a considerable addition of the medical element were infused into the constitution of both Houses of Parliament, and pointed out the influence which the medical profession ought to have in connexion with all questions bearing upon the general health and well-being.

In considering the causes to which the unsatisfactory state of the profession might be attributed, Dr. Roberts observed that, first, they were not a numerous or powerful body, and, therefore, Governments &c. cared little about them. Secondly, the public did not treat them fairly or kindly: they would take every advantage of them; numbers of persons obtained advice at the hospitals who could well afford to pay, while, on the other hand, they would readily give large sums to some pretentious quack. With all the late increase in charitable contributions towards the hospitals, and the generosity of anonymous donors, who sadly, however, needed direction as to what hospitals should be the objects of their generosity, there was no corresponding development of charity and consideration towards the medical staffs of these institutions. He did not mean that they were not paid—a matter, however, not unworthy of notice,—but they were not by any means always properly treated in other respects. People held very wrong ideas about their position, which were even encouraged by some gentlemen in their own profession. The lecturer then spoke about the difficulties and trials which physicians and surgeons to public institutions had to undergo, and in connexion therewith alluded to the sad events of the past year, paying a tribute of respect to the memory of Murray, Phillips, Dickson, Fuller, Allen, Webb, Harries, Anstie, Dobson, Schlesinger, &c. Dr. Roberts then drew attention, thirdly, to the obstacles to true progress which existed within the profession itself. He urged the great importance of cordial co-operation and firm union in all their associations, from the most extensive to the most limited, as well as of individual effort and of highest notion possible on the part of every member of the medical profession as to the nature and aims of his vocation.

Turning to consider medical education and examinations, Dr. Roberts compared the past with the present state of things, and, in speaking of former lectures, paid a tribute to the memory of the late Professor Grant, and also spoke in feeling terms of Dr. Sharpey, who had recently resigned the chair of physiology. Discussing the present aspect of affairs, he alluded in strong terms to the very inefficient examinations still existing, and urged the necessity for a satisfactory curriculum of study and satisfactory examinations for every part of the kingdom. Referring to examinations, he entered into a consideration of the causes of the

numerous rejections of candidates, and dwelt at some length upon the question as to how far examiners, teachers, and students themselves were respectively responsible for the present unsatisfactory condition of things, as well as their proper relations to each other; and finally pleaded for their combination for the one great purpose of making the profession in reality the high and noble calling which it was in essence. For this end there were wanted examiners fully competent for their duties and determined to perform them conscientiously and impartially, but yet with due courtesy and kindness; teachers not only possessing the ability, but eager to devote their best energies to the training of those committed to their charge; and students fully alive to their obligations and responsibilities.

After some words of exhortation, direction, and encouragement to the students present, Dr. Roberts concluded his address as follows:—"With all my heart, gentlemen, do I wish everyone of you success in the truest sense of the word. But in order to win success, you ought to deserve it. We sometimes see a man who has spent his time in idleness and frivolity, in after-life, aided by favouring circumstances, get ahead of those who have been diligent and hard-working. I confess that to me the sight is not an agreeable one, and I must express the hope that those who have earned success here may achieve it hereafter, though there is no reason whatever why you should not every one of you deserve it. And remember that a successful life need not be a brilliant or a long one. There are many obscure village practitioners, who in reality are far more successful than some who seem to float on the highest wave of worldly prosperity; and there are tablets in this college, erected to the memory of those who, having scarcely emerged from their student-life, accomplished more in their brief career, and were more truly successful, than most men who reach their threescore years and ten. To such men would I point you as examples. Follow in their footsteps. Make your mark for good in the sphere in which your lot is cast, whether it be large or small. Let your life be not a dark blot or a hideous caricature, but a finished picture, grand and beautiful and attractive to look upon, which will be the admiration of future ages. You may even now, if you choose, be sketching the outline of that picture; and hereafter, if your lives are spared, you can fill it in and make it perfect and complete, by devoting yourselves earnestly and faithfully to your duties, whatever they may be; and by taking your part in the conflict with disease and death, in the alleviation of pain, distress, and misery, and in the endeavour to sweep away many of the direst ills which now afflict humanity."

WESTMINSTER HOSPITAL.

INTRODUCTORY ADDRESS BY DR. POTTER.

AFTER a few words of welcome to the students, and alluding to the sad loss sustained by the school in the deaths of Dr. Frederic Bird and Dr. Anstie, both cut off in the midst of active work and in the full vigour of professional life, the lecturer went on to speak of the profession of medicine, and to congratulate those who had embraced it on their choice of so noble a life. But he told them that they must be certain of the truth of their choice, as they would find it a hard-working profession, success difficult of attainment, State rewards but few, and the chances of making a fortune infinitesimal. He continued: "To be honoured professionally, however, is open to you all, and it is rare that honest work remains unrewarded in this way. It is a source of pride to us that of the four seats of the Censors' Board of the College of Physicians two are at present held by the senior members of our staff, Dr. Basham and Dr. Fincham." After reminding his hearers that they are to be medical students, he went on to speak with regret of the abolition of the old-fashioned apprenticeship, believing that a year or so occupied in this way would be of great advantage. The seeing a great deal of practice, and especially the minor and petty cases, which make up, to a large extent, the bulk of everyday work; also the minor diseases of children, scarcely ever seen in a general hospital; the handling of drugs and the art of prescribing never successfully learnt in any other way; the traditions and etiquette of the profession; and last, not least, the opportunity it affords the young man to ascertain whether he really likes or dislikes the profession of his choice, as he sees, in addition to the purely medical point of view, the kind of daily life that he must expect if he goes on with it. A good deal of elementary knowledge can also be gained during this year of botany, chemistry, and some acquaintance with the bones. Turning for a moment to address specially the students making their first appearance in the theatre, he insisted strongly on the necessity for order in their medical studies, and especially at first to devote themselves mainly to anatomy and the dissecting-room, afterwards taking up physiology, and especially to work well in the new physiological laboratory, where they would have advantages of experimental research such as were not enjoyed by their predecessors in the school.

Speaking on the subject of midwifery, he dwelt on its importance as the keystone to practice, and laid great stress on the necessity of a sound practical knowledge of the subject, and the attendance on as many cases of labour as possible. He spoke also of the impossibility of attempting to teach the diseases of women and children as part of a three months' course of midwifery. The importance of taking notes in the class-rooms and also in the wards was strongly insisted upon. The advantages of Westminster Hospital, as *par excellence* a small school, were then dwelt upon, "for though a student of robust health, commanding talents, and great industry, might push his way to the front in a large school, it is far otherwise with many others. In a small school, where there is no crowding, everyone has his chance, is brought more closely into contact with his teachers, in the wards he sees all the cases without having to fight for the privilege, and in the latter years of his student life is able to hold the various appointments, and have the direct charge of patients."

Those finishing their curriculum, or about to enter into practice, were given advice as to their duties and responsibilities. "For the purpose of cure it is of paramount importance to ascertain what is the matter with the patient, uncertain diagnosis leading to very uncertain practice. But while making use of the instruments of precision called in in the present day to aid us for this purpose, do not neglect the old-fashioned art of observation, remembering always that medicine is, and must be to some extent, an empirical art. We must not despise it as such; the introduction of quinine and the discovery of vaccination were the result of observation alone." The advantage of preventive medicine, and the value of the appointments of medical officer of health, not only to the country at large, but as some of the few prizes open to the medical profession, were next insisted on; in the same way the duty of warning people against baneful habits, as drinking, opium-eating, and immorality, was pointed out as an important one, "prevention better than cure" being again the watchword. The same also was exemplified by the cruel mischief left after protracted and badly-managed labours; and the more early use of instrumental aid was laid down as a duty. To the busy practitioner the necessity of rest—at least an annual holiday—was strongly urged, the remainder of the year to be devoted to hard work, if success was to be attained; for though this was sometimes dependent upon accidental causes, it was in the main the reward of hard work and industry. "The number of deaths during the last year from over-work ought to be a warning to us all. One word as to your relations to each other. Avoid as much as possible medical squabbles; these only bring the profession into disrepute. Collisions and differences of opinion must occur in practice from time to time, but it is always better in such cases to suffer than to injure." As to the responsibilities of medical men, the opinion of the great and good Sydenham was quoted, and the lecturer concluded his address with the following quotation:—

> "Come wealth or want, come good or ill,
> Let young and old accept their part,
> And bow before the awful Will,
> And bear it with an honest heart.
> Who misses or who wins the prize,
> Go lose or conquer as you can;
> But if you fail or if you rise,
> Be each, pray God, a gentleman."

A TELEGRAM from Heidelberg, Melbourne, Australia, announces the death there, on the 24th ult., of Dr. Robert Martin, in his eightieth year.

THE LANCET.

LONDON: SATURDAY, OCTOBER 3, 1874.

THE three Introductory Addresses which we present to our readers *in extenso* are favourable specimens of that peculiar exercise which in some hands too often degenerates into twaddle, whilst in others it serves but the purpose of the mountebank's platform, by enabling the lecturer to trumpet forth his own merits or those of the institution he represents. Drs. FERRIER, DICKINSON, and FENWICK have not fallen into any such errors, but have each struck out a line for himself: Dr. FERRIER occupying himself principally with the history of medicine, and the relation between it and physiology; Dr. FENWICK taking the more strictly clinical aspect of medicine; and Dr. DICKINSON pleasantly mingling history and science with medical and clinical questions.

Space will not allow us to trace Dr. FERRIER'S genealogical tree of medicine from the days of the priests and philosophers to the present time, but we must pass on to the able defence of the labours of physiological histologists and experimental pathologists, which might fairly have been expected of one who has distinguished himself in both these fields of labour. "Nearly every positive fact in regard to vital function has been ascertained by the process of experiment on the lower animals," says Dr. FERRIER; and he then proceeds to show that the apparently contradictory effect of opium on man and on frogs is to be explained by the fact that man has a highly developed brain susceptible of the narcotic action of the drug, while the highly developed spinal system and lowly differentiated brain of the frog render that animal prone to convulsive manifestations. Reasonable as the explanation is, the lecturer seems to lose sight of the fact that if opium had been given to the frogs before it was administered to mankind—fortunately the reverse was the order of events—physicians might have been deterred by the physiologists from using one of the most important drugs open to them, as some may be now inclined to deny to mercury the virtue of a cholagogue on the strength of a series of physiological experiments on dogs, which Dr. FERRIER alludes to with very natural approval. After this we need hardly say that Dr. FERRIER is a supporter of scientific vivisection; and his argument, that "those who oppose this line of research ought, in consistency, to refuse to accept the advantages of the enlightened medical practice, which can be proved to be the direct result of that which they so much condemn," has at least the charm of novelty.

Dr. DICKINSON'S medical history has more of a clinical aspect; and his description of the various "systems"—as, for instance, that of "counter-irritation," in which "the skin has been excoriated with irritating and corrosive liquids, slashed, punctured, and undermined to become the receptacle of foreign bodies," &c.,—has considerable force and merit. Chemical rather than physiological investigation is found to have an important bearing on medical science; and the nitrogenous treatment of diabetes, and the alkaline treatment of rheumatism, are shown to be direct deductions from chemical research. Pathological investigation is, we need hardly say, strenuously upheld by Dr. DICKINSON, whose own labours in that field are too well known to need recapitulation here; but the following sentence so well expresses in small compass the lecturer's views that we need not apologise for reproducing it:—

"If you would advance your art, or even keep level with the age, you must be open to receive knowledge by every avenue; discard no therapeutical suggestion as too chemical; ignore no pathological inquiry, however minute and apparently unpractical, which may throw light upon the nature of disease; do not despise, as new-fangled or superfine, any appliance which may help to make diagnosis exact; separate as well as you can observation from tradition, trust the one and distrust the other."

Dr. FENWICK takes at once the position of the clinical teacher; and insists first of all upon the minute and careful observation of disease, and the various processes of nature for restoring health. Next, he proceeds to show that, though observations may be correct, the inferences founded on them may be wrong, and require testing by experiment; and then lays down that all observation of facts and experiments must be recorded at the time with the greatest accuracy. Each of these propositions found suitable and interesting illustrations at Dr. FENWICK'S hands; and he then proceeded to urge upon the student the necessity for assiduous labour in that most difficult task—self-education. The protest against the idea that "books and lectures can supply all the knowledge necessary, and that to pass an examination with credit is the only aim of student life," cannot be too often renewed; and we trust that not only those who heard, but those who read the warning, will lay it well to heart.

DURING the past six weeks the Marine Department of the Board of Trade, represented by their able and energetic Secretary, Mr. THOMAS GRAY, have been, so to speak "starring it" in the provinces very considerably. The department elected to adopt the unusual though very practical course of sending one of their chief officers down among the shipowners in order to learn from and to discuss with them what was wanted in the vital material of our marine, and how the want could be best supplied. It seems to us that, on this subject, Mr. GRAY has been playing persistently upon one string, and has been endeavouring to induce his hearers to put into practice one of the recommendations of the Royal Commission, and establish more training-ships. He has offered on the part of the Government, under certain conditions, a great deal in the way of assistance, and appears indeed to have been invested with almost unlimited "promising" powers. This by the way. It is not our province or our inclination to discuss on commercial or social grounds the wisdom or unwisdom of instituting and maintaining large floating establishments from which to feed the merchant navy of this country. But the sanitary condition of ships is now occupying much attention, and no class of ships requires so much care on this score as school-ships and training-ships. They are stationary sometimes

for years together. They are continuously occupied by as large a number of persons as form the working complement of many of our men-of-war, without, as in the case of the latter, the advantages of change of position. They are almost invariably old wooden ships, lent by the Admiralty after various terms of active and harbour service, usually spongy, and furnished with no system of ventilation. There are at the present time many such ships at moorings in various ports in the United Kingdom, six of which are in the Thames, and they accommodate unitedly about 1700 boys. These latter vessels are designed for youngsters of all classes, from the future commanders of our finest steamships and East Indiamen to the unkempt child taken from the gutter and the incipient criminal barely rescued from the gaol.

The subject from which our text is taken is, on the present occasion, the Marine Officers' Training-ship *Worcester*, moored off Greenhithe, the actual facts as to which are stated in another column. It would be premature, and indeed impracticable, to discuss at present what has been done to stop the progress of the serious epidemic of scarlatina that has broken out on board that vessel; but we may take it for granted that the port sanitary authority has given wholesome and practical advice, and that this advice has been acted upon in its entirety by the captain-superintendent, as the legal occupier of the vessel, under the direction of his committee. Let us, however, take a brief retrospect.

The Marine Officers' Training-ship was first established in 1862, and the *Worcester* was then moored just above Blackwall. During the first year of her existence as a school-ship one case of scarlatina only occurred. She was afterwards moved down to Erith, and in 1868 there was a severe epidemic. The ship was cleared of the boys and sent down to Southend, where, in the early part of 1869, shortly after the reoccupation, a third outbreak took place. She was moved a fourth time to Greenhithe; and it appears that in the spring of the current year some sickness occurred on board, which the medical officer of health characterises, in a report to the Port Sanitary Committee of the Corporation, as a "very mild and circumscribed epidemic of scarlatina." And at the end of August last another severe epidemic commenced, and is apparently still continuing. As will be seen elsewhere, the ship is calculated to accommodate 140 boys, and it is a matter of congratulation, on sanitary grounds, to know that only one-half of that number are now on board. When it is remarked that all these epidemics appear to have commenced very shortly after the holidays, we have told the tale, and want now to point the moral as to school-ships and training-ships generally, for the information of the persons who are disposed to support them, and who are or may be appointed to govern them.

First, is it wise to herd boys on board ship at all? and is it really necessary to do so in order to prepare them for service at sea? The ship is stationary, which of itself increases and complicates the difficulties of ventilation to an enormous extent. The main and lower decks of most of these ships barely average 6 ft. from deck to deck (*not* from deck to beam), and without going into figures we may say at once that if, as suggested by "A Parent with a Son on Board," Boards of Health are to regulate cubic space in these floating establishments, the ships as school-ships would soon cease to exist. The argument put forth by the chairman of the *Worcester's* Committee, to the effect that sleeping accommodation deemed in the navy enough for 400 men ought to be sufficient for 140 boys, is not tenable for the following reasons:—An entire ship's company, whatever their numbers may be, are scarcely ever below together. They are all, or nearly all, adults, and as such are by no means so susceptible to the advances of epidemic diseases as young boys; and, again, they are, or are presumed to be, as to personal physique, the cream of our population, whereas the inmates of most school-ships must contain on this head individuals of good, bad, and indifferent quality. It must also be remembered that part of school-time afloat is passed on the main deck, on which also perforce all meals must be taken. All those who have any practical knowledge of the internal construction of a large wooden ship are aware that, even if the hold of the ship be cleared down to the keelson, and care be taken to limit the number of bulkheads, the spaces between the skins of the ships, as well as numberless other holes and corners, favour the accumulation of all sorts of objectionable material, hurtful probably as to its composition, and tending also to impede aerial circulation. Of this condition the old *Dreadnought* and her predecessors afforded many instances, which were recorded in the columns of this journal some eight or ten years ago. It is sufficiently manifest that, before the official announcements that have been recently uttered as to training ships take a practical shape, the desirability, on sanitary grounds, of encouraging them, or of increasing their numbers, should be well considered. And if this point be determined in the affirmative, there is much to be said and done in reference to structural and administrative arrangements, so that all good practical results of sanitary science afloat may be brought to bear upon these establishments, with the view to prevent outbreaks of epidemic disease.

OUR readers will no doubt have perused the evidence collected by Dr. PARKES from medical officers and other sources, and embodied in the report recently published by him in this journal, on the issue of a spirit ration during the march to Coomassie. This forms a novel and instructive method of studying the subject; for we must venture to think that there is little or no parallel between the results of experiments with alcohol made with the view of investigating its effects from a scientific standpoint and those obtained in a campaign. In the first the work imposed on the subject of the experiment is orderly and systematic; the supply of food regular and well cooked; there is no exposure to the vicissitudes of weather; the rest at night is undisturbed; and, morally, there is a freedom from the perturbations of excitement or depression of a campaign. We know that during a campaign the maintenance of none of these conditions can be relied on. In the report, however, we have a record of facts and opinions drawn from experience in the field, on too limited a scale no doubt, and with too many sources of inaccuracy, to warrant any one in pronouncing a definite judgment; but Dr. PARKES has subjected the evidence to a critical analysis, and ex-

tracted such conclusions as it was capable of sustaining. Apart from its military bearings, the question is one of great physiological interest. Dr. PARKES concludes that entire abstinence from alcohol did not make the abstainers more sickly, as a rule, or more disposed to malarious fever; that the marching powers of the teetotalers were good; that the issue of spirits had, in the case of several men, a reviving effect when given at the end of the day; and that some of the evidence indicated that it exercised a beneficial effect on digestion and in relieving the monotony of the food. Dr. PARKES calls attention to the superior health of the teetotalers of the 42nd Highlanders on the Gold Coast; and connects it with their previous health and good conduct in India and elsewhere, and with their good physique and care of themselves. If a given force were composed exclusively of young, healthy, and previously temperate men, who had to work hard in the open air all day, and were supplied with good, well-cooked, and varied food, there cannot be a doubt that stimulants would be quite unnecessary, and that their administration might be safely left for very exceptional and emergent circumstances. We must frankly confess, however, that we fail to see the force of an argument against the use of alcohol in the field founded on the fact that a certain number of men had been abstainers and enjoyed most excellent health whilst undergoing great and fatiguing marches. The probability is that they never felt the need of any stimulants; and they formed an excellent law unto themselves, but not to the others who did feel such need. Putting aside the effect of previous habit, which probably could not be suddenly altered in a campaign or during an epidemic without some risk to health, every military force contains a number of men who are not so strong and vigorous as they appear; and the question is whether the moderate daily use of stimulants is serviceable to such men or not. Children and young persons generally manifest a decided distaste for alcoholic liquors, and, under ordinary conditions of health, they are injuriously affected by them; while at other and later periods of their lives they are as decidedly benefited by their use. Dr. C. A. GORDON, in his "Remarks on the Use and Abuse of Spirits and Fermented Drinks in Armies during War," points out that Sir JOHN PRINGLE laid considerable stress on the good effects resulting from the moderate use of wine and other alcoholic drinks, especially in the case of the army operating in the Low Countries in 1742; and he cites the testimony of other cool-headed and experienced medical officers to the same effect. Moreover, Dr. GORDON refers to the results of his own experience during the siege of Paris, and likewise to those of the expedition to Bhotan and of the Abyssinian and American wars, in order to correct some current errors, and to show that the moderate use of spirituous liquors is attended with benefit. We would especially guard ourselves against being thought to inculcate that a spirit ration might be issued systematically, without reference to time, age, place, and other circumstances; but we certainly think that a judicious use of alcohol may play an important part in army hygiene under conditions so commonly encountered in warfare. And some observations in an inaugural address by Dr. W. A. HAMMOND on the effects of alcohol on the nervous system will sufficiently indicate what these conditions are. He proposed three separate series of experiments. The first was to determine the influence of alcohol where the food was just sufficient for the wants of the organism; the second, where it was not sufficient; and the last, where it was more than sufficient. He shows, under the first, that the weight of the body slightly increased, while the excreta were somewhat diminished and the general health was somewhat disturbed. In the second series, not only was the previously ascertained decrease in the weight of the body overcome, but all the organs of the body acted with energy and efficiency. In the last, although the weight of the body increased, the general health was injuriously affected. The inference is, that where it is necessary to supplement the food by something, where it is desirable to diminish the destruction of tissue without lessening the force which would otherwise be derived from its full continuance, or where it may be necessary to obtain a great amount of force for a limited period, alcohol may prove an excellent agent. Of its revivifying properties under certain conditions, or of its occasional use as a fillip to appetite and digestion, there does not seem to be much dispute. Now as to the form: beer, wine (claret), or spirits? The transport of the first and second, however desirable, would probably be impracticable in the field; and it must be remembered that the taste for claret is not a widely diffused one, and has not yet permeated the multitude. Many soldiers, for example, would as soon drink red ink as claret. We are reduced, then, to spirits of some kind, and these should be issued under the circumstances and at the times which Dr. PARKES has pointed out. Meat extracts, in the case of wounded or excessively fatigued men especially, might often be advantageously employed, as supplementary to, if not substitutes for, alcohol; but we cannot help thinking that Dr. GORDON is right in questioning very much whether the British soldier could be got to consume these with alcoholic liquors, or could be indoctrinated into such belief in their renovating effects as to prefer them as a substitute for the revivifying influences of alcohol.

THE Curators of the University of Edinburgh, at a full meeting held on the 26th ult., elected Dr. WILLIAM RUTHERFORD to the Chair of Physiology; and we cordially congratulate him on the successful issue of his candidature, and wish him health and long tenure of office. The experience in teaching he has obtained, originally in Edinburgh and more recently in King's College and at South Kensington, will prove of essential service to him in the high and honourable post to which he has been appointed, by familiarising him with the routine duties he will now be called upon to perform; whilst his experience as examiner in the University of London and elsewhere will have shown him how imperfect is often the knowledge acquired by even the picked men of the London and provincial schools, partly owing no doubt to the many calls there are upon the student's time in these days of advancing science, but partly also to the somewhat *dilettante* manner in which physiology is usually taught; the want of thorough grounding, and the entire want of familiarity with all the ordinary methods of modern physiological research, being very

noteworthy points. The part taken by Dr. RUTHERFORD in instituting the class of Practical Physiology in Edinburgh some years ago sufficiently attests that he is fully alive to these defects; and there is little question but that now, when the guidance of the whole teaching is in his hands, and he is no longer hampered by superior authority, he will do his utmost to extend and render accurate a knowledge of Physiology, acknowledged on all hands to be the very keystone of every department of Medicine, and of which he is himself so eminent a master. The position taken by any great university as a medical school must always depend on the way in which Anatomy and Physiology are taught; and the northern metropolis can show a list of names in these subjects, so long united but now so distinct, that may vie with any of the English or foreign universities either past or present. Professor TURNER has raised the Anatomical department to the highest pitch of efficiency, and it remains for Dr. RUTHERFORD to do the same for Physiology.

To the disappointed candidates we can only say that although where many contend only one can receive the prize, yet by the profession at large, who can look on this election with feelings unbiased by personal predilections, each is regarded as one who would worthily have upheld the ancient honour of the University, and would, had opportunity offered, have proved himself, as Dr. RUTHERFORD will do, a worthy successor of BENNETT and of GOODSIR.

THE meeting at Dr. GEORGE JOHNSON'S house, for the purpose of devising means whereby the esteem of the friends of the late Dr. ANSTIE may find a fit and lasting expression, was in itself a powerful testimony to the place which he filled in the minds of those who knew him. Composed of men engaged in every line of practice, and of men who represent science rather than practice, the meeting was itself a tribute to the worth of ANSTIE, whose great design was to wed practice to science, as much with the view of making science practical as of making practice scientific. Not the least happy and appropriate part of the proceedings was the reading by Dr. JOHNSON of the generous remarks in our contemporary, the *Spectator*, on the death of Dr. ANSTIE, in which it displays a nice perception of the controversial element in his character. This was in truth one of his finest characteristics. His eye and ear seemed made quick for receiving any report of error or of injustice, and his whole body and soul quivered with eagerness to oppose what he thought wrong either in doctrine or in institutions. The doctrine might be legal or theological or medical; the institution might be a college or a workhouse—it mattered not to him, except that weakness and poverty seemed to intensify in him the desire to help. No wonder that around such a man's grave all men join hands and speak nothing but good. No wonder that his friends—to use words never to be dissociated from his own inimitable voice—"were many and true-hearted," and remembering even his controversies rush to join in "the meed of some melodious tear."

The form which the memorial will take is left, and well left, in the discretion of the Committee. There is happily a boy who may best perpetuate the man; and, if it should be necessary, the Committee will have full power to assist in giving him such an education as his father had designed for him. Certainly no testimony to a great human nature like ANSTIE'S could be more delicately suitable than to see that his son, in the great matter of education, is placed somewhere near where paternal love and even paternal ambition would have placed him. And it was instructive to see how unanimously practical the meeting was on this point. Should assistance to this end not be needed, then an ANSTIE Scholarship or some such memorial will be instituted, and, though dead, he will yet speak inspiringly to generations of students, urging them to work while it is day, to be bold, to be earnest, to show no quarter to disease or to conditions which generate it, and to believe that the world is full of remedies for its own evils, if men will only search for them. This last was the true moral of the life of the Editor of *The Practitioner*. A belief was expressed at the meeting that the public will take part in perpetuating the memory of Dr. ANSTIE. We hope it will. But ours is the profession which he adorned, and in which his chief friendships were formed. It was our art which he laboured so hard and so intensely to perfect. Let us, then, even at some sacrifice, show our estimate of his life, and try to perpetuate the memory and the lessons of it.

WE read some few days ago in a contemporary, with unbounded astonishment, that Mr. SIMON "is understood to contemplate retirement from the position in which he has rendered valuable public service in consequence of a serious affection of the eyes, which has compelled him to relinquish active duties for some time past, and to go on the Continent." It is a matter of sincere congratulation to be enabled to give the statement an unqualified contradiction, and it is to be regretted that, in the interests of sanitary progress, it should have been made at all. Mr. SIMON is, as we are informed, enjoying his ordinary term of vacation, having completed arrangements for the scientific and public-health portion of a most important Government Report, of which the administrative part has already been issued. The appearance of this Report will be looked for with great interest by all sanitary medical authorities, and Mr. SCLATER-BOOTH will, when it is published, have the credit of removing the scientific embargo placed by his predecessor upon the medical officer of the Local Government Board, and so of amending as far as is now practicable the consequences arising from the policy of the last President in all matters relating to Mr. SIMON'S department. On *primâ-facie* grounds, the retirement of Mr. SIMON at this juncture from a post he has worked for years with so much ability and energy is most unlikely.

THE Prussian Correspondent of *The Times* supplements the particulars already published as to the practical experiment performed at Breslau on cremation. The proceeding was under the direction of the municipal authorities. Gas was employed for the purpose. In half an hour the softer part of the body had almost entirely disappeared, and in another half hour the bones had been almost wholly consumed. The skull was then in fragments, and scarcely any part of the remains indicated that they had helped to form a human body. A number of physicians and naturalists, present at the Congress in the town, witnessed the process, the expense of which is stated to have been very small.

Medical Annotations.

"Ne quid nimis."

"WALKING THE HOSPITALS."

THIS exploded term—at least as regards medical education—expresses fairly enough the labours of some students of medicine, who do little more than *walk* through the wards, if, indeed, they ever get beyond the entrance door, with its posts honeycombed by the walking-sticks of successive generations of idlers. It is surprising how assiduously these gentlemen keep watch for the medical officer who has *not* arrived to time, and how carefully they shirk contact with the zealous teacher either in the wards or out-patient rooms. Our object is not, however, to deal with these gentlemen, whom the Nemesis of non-qualification will surely enough overtake in due time, but rather to make a few suggestions to those who are this week entering the doors of a hospital for the first time, all anxious to learn, but a little dismayed by the novelty and apparent confusion of all around them. We are not among those who would exclude the student from the hospital until his third year, although we are quite ready to allow that his best attention must be given at first to the systematic lectures and dissections. But during the first week or two it is not probable that the first-year's man will have the opportunity of dissecting, and he had much better be in the hospital than idling about the streets. It is obviously better for him to attend the surgical than the medical practice in his first year, and he will probably learn more in the out-patient room, where simple cases are the rule, than in the wards, where a knowledge of anatomy and surgery will be required to follow the teaching of the surgeon. Still he is pretty sure, from curiosity only it may be, to visit the wards, and he will no doubt pick up something if he keeps his eyes and ears open. The mob of students accompanying a popular surgeon for the first week or two of the session is often really terrifying to the patients who have been accustomed to the comparative quiet of the vacation, and students should be careful, therefore, to be quiet in their demeanour, and not to let even the *bon-mots* of their teacher move them to aught but the mildest hilarity. For fifty men to crowd and push round one bed when an equally interesting case is lying neglected in the next bed, to which the surgeon will come in a few minutes, is very absurd; and a little methodical arrangement will enable all to see the cases, and hear the remarks of the surgeon on alternate days.

Surgical clinical lectures may, we believe, be advantageously attended by the first-year's man, who will be able to follow the lecturer fairly enough if he has already seen the cases lectured on in the wards. There are, however, many points, and even terms, which may be obscure, but which may be readily elucidated by referring to any manual of surgery—such, for instance, as Druitt's "Vade Mecum." Another book essential for students is the Pharmacopœia of the hospital to which he belongs. It can do very little good to learn that a patient is ordered a certain mixture or pill unless the student knows something of its constitution; and as, for purposes of convenience, particularly among out-patients, definite formulæ are employed, these should be thoroughly understood.

THE ANOMALIES OF SANITARY LEGISLATION.

OUR contemporary, the *Shipping Gazette*, has just discovered a serious flaw in the Merchant Shipping Act of 1867, designed, as it would appear, with the express purpose of giving that moribund disease, sea scurvy, a chance of living a little longer in the British mercantile marine. It appears, according to the confession of the authorities at the Board of Trade, that "a British ship may ply between the foreign ports, or from a foreign port to a British possession, or between two places situated in British possessions, without being compelled by law to carry lime- or lemon-juice for the use of the crew." We may give an actual example:—A vessel some weeks ago was about to proceed from Rotterdam to Lagos, and was provided with stores sent from Liverpool, to which port the vessel belonged. The owners naturally wished to send out a supply of authorised lime-juice, but were not permitted by the officers to take the fortified juice out of bond, because the ship for which it was intended did not clear out in the United Kingdom for a place abroad; ships trading between this country and Rotterdam, or indeed any European port, not being required to carry special antiscorbutics. So that, as the law now stands, any British vessel that starts on a long voyage from other than a British port cannot be supplied with certified lime- or lemon-juice for the use of the crew; thus putting the latter in as bad a position as they were before 1867, when the entries on the *Dreadnought* Hospital records for scurvy were numbered by scores annually, instead of as now by units, and they few and far between. When the Suez Canal was first opened, an impression prevailed among masters and owners that vessels passing through the canal were exempted from compliance with the "antiscorbutic" clauses of the Duke of Richmond's Act. But the Board, in a circular notice dated 1871, expressed to the maritime public a decided opinion that no such claim for exemption could be entertained; and it is due to the sanitary welfare of our seamen that the legal flaw described above should in like manner be remedied by the Whitehall authorities without delay.

CREMATION ON THE BATTLE-FIELD.

AN important feature in one of the days' proceedings at the recent International Sanitary Congress was the reading of a paper by Dr. Reclam, of Leipsig, on the much discussed subject of cremation. The doctor advanced many sanitary reasons for the practice, and indicated several circumstances under which it was, in his opinion, more especially desirable to have recourse to it, as, for example, in cases of infectious diseases, and after destructive battles. There is much to be said in favour of the advantages of cremation over any other method for disposing of the dead left on the battle-field. Our only doubt was as to its practicability; but it seems that Dr. Reclam gave a minute description of a new burning apparatus, combining efficiency with economy, by which a horse, for instance, could be thoroughly consumed in two hours at a cost of four shillings' worth of fuel. With this new system, it was contended, the dead left on the battle-field of Gravelotte, men and horses together, might have been reduced to a harmless heap of white ashes in four days. The disposal of the bodies of those slain in battle, especially after big battles, similar to those which took place during the great American and Franco-Prussian wars, becomes a very serious undertaking. So far from there being the faintest indication of Mr. Buckle's prophectic utterances being realised, there seems, on the contrary, to be every reason for believing that wars, increasing in size and number, are to be reckoned among the normal signs of the so-called progress of modern civilisation. The digging of graves, and the procuring of charcoal, lime, pitch, and other ingredients, commonly had recourse to in order to overcome the wholesale fouling of earth, air, and water, may now be effectually set aside as unnecessary, so long as we have the remaining of the ancient elements—fire—at our command.

THE MARINE OFFICERS' TRAINING SHIP, "WORCESTER."

As several letters have appeared during the past week in *The Times*, announcing in somewhat emphatic terms the fact that an outbreak of scarlatina had occurred on board this ship, we are glad to be able to announce the actual position of affairs. It appears that the first case occurred at the end of August, shortly after the boys had returned to their ship at the termination of the holidays. The disease has continued up to the present date, 21 out of a total complement of 140 boys having been attacked. One death has occurred. As the ship is unprovided with any hospital accommodation (except a very small sick bay on the main-deck near the bows), it has lately been the practice on this and other occasions to send all patients to the Seamen's Hospital at Greenwich, a distance by water from Greenhithe of about twenty miles.

The Port Sanitary Authority first became aware of the outbreak about a week after it had commenced, and have, through their medical officer, had constant verbal and written communications with the committee and officers of the *Worcester*, in which detailed directions have been submitted for the guidance of the latter in endeavouring to arrest the progress of the epidemic. As many of the boys have been sent home by the express orders of their parents, there are at the present time only about 70 on board and 12 at the Seamen's Hospital, all of whom, we learn on going to press, are progressing favourably, although, as we are informed by Mr. Andrew Duncan, house-physician, several have had somewhat severe renal complications.

THE COST OF EDUCATION.

THIS season marks the commencement not only of medical studies, but of those of the numerous schools and colleges for the ordinary education of the youth of both sexes, and it may be well to call the attention of family medical advisers to one or two points in connexion with these institutions. We need not discuss the ludicrous announcements which appear from time to time in the advertisement columns devoted to educational subjects—such, for instance, as the "widower who wishes to place his daughter in an educational establishment where the principal is young, good-looking, and unmarried," or the ladies' school advertisement, which is headed with the double-edged proverb "*Suaviter in modo fortiter in re.*" We wish to call attention to the prices demanded for boarding and teaching boys and girls. At one extremity comes the hundred guinea select establishment, where presumably the young ladies are well fed and instructed; at the other, the twenty pound school, with "no holidays unless desired." With butchers' meat at tenpence the pound, and milk at fivepence per quart, how, we ask, is it possible that growing children can be kept in health and vigour for such a sum? Divided over the year, this payment would yield but one shilling per diem for food, and leave thirty-five shillings over for the whole of the remaining cost of rent and education. Is it the experience of any householder in a decent position that a boy or girl of fourteen can be kept for less than a shilling a day?

Even in the better-class schools, we believe that, with the best intentions, harm is done to children by injudicious arrangement of the meals, and especially by sending weakly excitable scholars to bed with empty stomachs. Medical attendance is usually an *extra*, so that there is little scruple in calling in the medical man; but we would suggest to our *confrères* that in many cases it is not so much tonics to give an appetite which are required, as means of satisfying, and in some cases tempting, the appetites of their patients. Many schoolmasters and mistresses err solely through ignorance, and would be glad of hints for raising the general health of their scholars; but as regards the class who apparently emulate Mr. Squeers, no severity could be too great should it be proved, as we fear it must be some day, that a child's life has been sacrificed to the parsimony of parents and guardians who have deliberately placed it where it must perforce obtain insufficient nourishment.

THE WOOLWICH ROYAL MILITARY ACADEMY.

IN the Report of the Board of Visitors for the year 1874, reference is made to the sanitary condition of this institution in connexion with the complaint of the medical officer of the want of a covered communication between the sleeping-rooms and baths. The Visitors concur with a former Board in considering that cadets likely to suffer from exposure are not suited for military life; and therefore it may be assumed that if any be killed off the fittest will survive at any rate. Moreover, as some considerable changes of a structural nature will have to be undertaken, the erection of covered passages is not recommended. The accommodation at the Military Academy is insufficiext to give a separate room to every cadet, and this is now considered essential to enable them to carry on their studies properly, to say nothing of its being desirable on sanitary and moral grounds to make such a provision. Owing to the amalgamation of the Royal and Indian armies, and the abolition of the college at Addiscombe, the number of cadets has increased beyond the provided accommodation. There is one thing which is to us a matter of some surprise, considering the great importance attaching to the physical training of young officers, and that is the continued reports as to the inadequacy of the present recreation ground for cricket, &c., especially as ground, property of the Government, appears to be at once available for the purpose.

VACCINATION AT HOSPITALS.

THE vaccination officer for the Union of St. George's, Hanover-square, reports, on the authority of three persons who were in attendance, that the week before last thirty children were vaccinated at St. George's Hospital, and on their return for inspection the following week, "twenty-nine" were unsuccessful, the remaining one having (he was not quite certain whether it was said) two or three vesicles, numbers leaving without vaccination.

This influx of candidates for vaccination at St. George's Hospital is probably due to that institution having been recently closed, and the fact of an imperative impression being made on the minds of the women who seek assistance in their confinement from St. George's as well as St. Thomas's Hospitals, "that unless they take their children to the hospital to be vaccinated, they will be deprived of assistance from the institution on a future occasion."

The above fact with its accompanying penalty speak loudly for themselves, and the indifferently-paid public vaccinators in the immediate vicinity of these institutions have a just cause of complaint.

THE CASE OF CHOLERA AT THE WEST-END.

THE patient was a cabinet-maker, born in France, and about eighteen months in this country. He was fifty years of age or thereabouts, and had rooms on the third floor of a house in Charlotte-street, Portland-place. He was of steady habits, and, being a refugee, might be looked upon as morally depressed. On the 20th of September he was seen by the substitute of his club doctor, and found to have suffered the whole previous night from rice-water dejections and continual vomiting, no distinct cause being known to

account for these symptoms. Appropriate means were used, but to no avail; and the patient's state was worse on the 21st, when more energetic remedies, as enemata of starch, large doses of opium, and astringents, were administered, with counter-irritation on abdomen, &c. No certainty as to the amount of renal secretion was obtained. On the 22nd severe cramps, algidity, and blueness of skin, with entire cessation of purging and vomiting. On the 23rd, at 10 A.M., death, followed by considerable rigidity, cerulean integument, and suffused eyes. The case was certified as algide cholera; but the officers of the Local Government Board considered, after an investigation into the state of the house, &c., that the complaint should be termed English cholera.

THE TREATMENT OF HYDROPHOBIA.

DR. WILLIAM HAMMOND, in speaking of this subject, recommends, as a preventive measure, excision of the part bitten on the plan practised by M. Roux—viz., that of cutting a piece of wood to the size of the wound, inserting it into the wound, and then cutting so as to extract the wood entirely, together with the parts in contact with it. He is inclined to think that the most effectual method of treatment of the disease, when established, would be the persistent application of the primary galvanic current, one pole being placed to the patient's head and the other to his feet, making the current flow continuously all the time the disease lasted. Dr. Hammond mentions a case reported by Dr. Schivardi, who by that means maintained the life of a patient for seven days, when he died without apparent hydrophobic symptoms, but purely of exhaustion. In addition, Dr. Hammond would apply ice continuously to the whole length of the spine. He states that he has used ice in the treatment of four cases of tetanus in New York, and that all the cases recovered. He is, then, disposed to rely partly upon the continuous application of ice, but chiefly upon galvanism; and as to the more effectual way in which galvanism can be used, he waits until he has more experience on the subject. He disposes of internal remedies with the remark that those cases in which they are reported to have been successfully employed were not authentic cases of hydrophobia.

DR. ARTHUR JACOB.

WE regret to have to record the death at a very advanced age of this esteemed member of our profession. Dr. Jacob, although born in Ireland, was descended of an old Kentish family, several members of which at various times rendered important service, civil and military, to the State, and were rewarded with honours and dignities. A baronetcy conferred by Charles II. became extinct in the latter part of the last century by the death of Sir Clement Brydges Jacob.

The subject of our memoir was born in 1790, and in 1814 obtained the M.D. degree at Edinburgh, and after some months devoted to travel, settled down in Dublin. In 1819 he published a paper in the "Philosophical Transactions," giving a description of a membrane of the eye, which he had discovered, and which under the name "membrana Jacobi" will perpetuate his memory as an earnest and gifted scientific worker. He was for many years a very successful medical teacher in Dublin, and took an active part in the politics of his profession. In 1838 he established the *Dublin Medical Press*, to the pages of which he was up to the last a frequent contributor. He also furnished many valuable contributions to contemporary medical literature.

Dr. Jacob had been three times elected President of the Irish College of Surgeons, the responsible duties of which office he discharged with vigour and tact. "His age was like a lusty winter, frosty, but kindly."

THE ANSTIE MEMORIAL.

WE are informed that the Executive Committee of the Anstie Memorial Fund have decided not to publish a subscription list until they have received replies from many persons of distinction, medical and non-medical, who will be asked to become members of the general Committee. Our readers will be glad to hear, however, that the fund is making good progress; and that the sums announced at the preliminary meeting, together with those since sent spontaneously to the treasurer (Mr. J. S. Storr, 26, King-street, Covent-garden), or to the honorary secretaries (Mr. Brudenell Carter, and Dr. Wharton Hood), amount already to nearly £500. Further contributions will be gladly received by the same officials; and we hope next week to be able to publish the names of the full committee, and also the amounts subscribed.

SLAUGHTERHOUSES.

THE Council of the Society of Medical Officers of Health have recently passed and promulgated certain suggestions as to the bye-laws that shall regulate the structure of buildings used for slaughtering cattle, and the conduct of any business included in the Slaughterhouses &c. Act that has just commenced to take effect. As regards the buildings, no less than seventeen recommendations are made, having special reference to situation, ventilation, drainage, and removal of garbage and other filth, so as to avoid the creation of a nuisance. The trades of blood-boiler, bone-boiler, manure manufacturer, soap-boiler, tallow-melter, knacker, fellmonger, and tripe-boiler are grouped together as the subjects of distinct regulations, all of which appear to be well worthy the attention of those who are entrusted with the framing of any bye-laws in connexion with this very important Act.

A SUCCESSFUL BOOK.

MEDICAL works have been proverbially unsuccessful as commercial adventures, at least to their authors, however great may have been their success as a means of advancing professional reputation. There are here and there exceptions, and a notable one is formed by the works of the late Dr. Tanner, who, possessing a remarkable power of putting into print just what the practical man required, succeeded in gaining both professional and commercial success of a signal kind by his literary productions. A new edition of his well-known work on Medicine is announced for immediate publication, having been edited by Dr. Broadbent. We learn that the last edition of no less than 5000 copies, of two volumes each, costing a guinea and a half, was exhausted in about five years. The former work, a guinea book, consisted of 3000 only, and was sold in four years; whilst the edition previously issued at seven shillings consisted of 5000 copies, and was disposed of in five years. Hence, whilst the work has been increased in size and price, its sale has steadily increased also; in fact, it has, we believe, the largest sale of any book on Medicine.

THE SOCIETIES.

WITH the return of the winter session the medical societies resume their meetings. First in the field is the Obstetrical, which meets on the 7th inst.; then comes the Clinical, which holds its first meeting on the 9th; the Medico-Chirurgical on the 13th; the Medical on the 19th; and the Pathological on the 20th. No alterations in the general arrangements are reported; the proposed change of time of meeting of the Pathological from eight to half-past will not take place, at any rate for the present.

LETTER PILLAR-BOXES.

DURING the last few days, or rather nights, the letter-pillars of the West-end of London have received a coat of scarlet, only preparatory, we fear, to the usual dark green of all English out-door metal and woodwork. May we venture to suggest to the Post-office authorities that the red pillars are much more readily distinguished at a distance than green ones, and that, therefore, they will be more convenient to the public, especially to those desiring to post a letter or card, as a doctor often does, in a comparatively strange neighbourhood. Post-offices are indicated by a sign on the neighbouring lamp-post, but letter-pillars are at present undistinguished, and frequently undiscoverable, even at short distances.

THE LIERNUR SYSTEM.

THOSE of our readers who are interested in the Liernur system of sewerage, which has been brought prominently before the public recently by Sir Philip Rose, will find the details in THE LANCET of March 30th, 1867, under the head of "Sewage at the Hague."

IT is understood that from the commencement of the present month the new system of army hospital organisation will be substituted for that at present in operation, and that regimental hospital establishments will cease to exist at Aldershot, three "station hospitals" being formed at that camp instead. One will be formed at the North, and one at the South Camp, and the third at the Permanent Barracks. The regulations relating to these station hospitals, and those detailing the duties of the medical officers will, in all probability, be immediately promulgated. In the meantime, as we gather from the naval and military column of *The Times*, a medical officer, termed the "senior," will be appointed to each station hospital, who will be responsible for the medical administration, under the principal medical officer of the division. A certain number of medical officers will be appointed to assist in carrying on the various hospital duties.

WE exceedingly regret to have to record the death, on the 28th ult., at Edinburgh, of Wm. Thos. Wood, M.B., C.M. Ed., the eldest son of Dr. Andrew Wood. It is only a few weeks since we had to record the death of Dr. Wood's youngest daughter. Mr. W. T. Wood took his degree and other qualifications in 1870. Though for some time his health had been a source of anxiety to his friends, latterly it so far improved as to give them fresh hope, which unfortunately has not been realised. Mr. Wood was a young man of most promising character, and doubtless his father cherished the pleasant hope that in coming years his son would be a valued partner and helper. But *Dis aliter visum*. In his grief and disappointment Dr. Andrew Wood will have the deep sympathy of a large circle of professional friends.

SEVERAL attempts are being made in seaport towns to utilise sea-water for sanitary purposes, such as supplying public and private baths, flushing sewers, watering streets, &c. Dr. Yeld, medical officer of health for Sunderland, has recently presented a report on the question to the health committee of the borough. He contends for the superiority of sea-water over fresh water in street watering, and alleges that when treated by the former the streets remain much longer moist even during very hot weather, and that by its means the cohesive power of the materials of a road are increased. The bracing and invigorating qualities of sea-water when used as a bath are too well known to need illustration.

SOME of the older inmates of the St. Pancras Workhouse having frequently complained to Dr. Hill, the medical officer, of the hardness and indigestible nature of the beef supplied to them, which, it was alleged, often produced indigestion and its train of evils, the guardians have determined to improve the diet in certain respects. Henceforth mutton will be substituted for beef in the case of inmates over sixty years of age. This is a sensible and generous concession to the wishes of the poor which will tend to promote feelings of contentment and gratitude.

THE last returns of the Manchester and Salford Sanitary Association show that 1858 new cases of disease were admitted during the week. A sudden increase of small-pox is observable in the district. Measles, scarlatina, enteric fever, and typhus are again making their presence felt; whooping-cough and diarrhœa are sensibly diminishing. The Association is distributing gratuitously copies of its instructions on the best means of avoiding and preventing the spread of zymotic diseases.

IT is notified, under the authority of the Secretary of State for India, that, although a certain period of regimental service is not required by the Royal Warrant of July 1st, 1873, as a necessary qualification for promotion to the administrative grade of the Medical Department, it will still rest with the Government of India to select for promotion to that grade officers possessing sufficient regimental experience to enable them to exercise supervision over military hospitals and regimental military staffs.

A DEPUTATION from the Lambeth guardians lately waited upon the President of the Local Government Board, to urge upon him the desirability of remunerating the medical officers of the parish by fixed stipends instead of by salaries and fees, as heretofore. The President was unable to give a definite reply on the question, which he thought was one beset with great difficulties. The Local Government Board, however, would consider the suggestion made, and would endeavour to meet the wishes of the guardians.

WE learn that the Council of the Poor-Law Medical Officers' Association will shortly meet for the purpose of expressing its regret at the premature death of Dr. Anstie, and of recording their sense of the invaluable services he rendered to the cause of Poor-law Medical Reform, when acting as our Commissioner in the inquiry instituted by us into the condition of the Metropolitan Workhouse Infirmaries in 1865-66.

IT is officially denied that yellow fever prevails in an epidemic form at ports on the South Atlantic and Gulf coasts. From New Orleans to Galveston no yellow fever exists, and, with the exception of Pensacola, this appears to be the case elsewhere in the South. At Pensacola there have been seventeen cases—two of them fatal—in the navy yard; the others are described as doing favourably.

THE Medical School at Calcutta has lost its able and accomplished Professor of Materia Medica and Clinical Medicine in Soorgo-Coomar Goodeve Chuckerbutty, M.D. Lond., who died on the 29th ult. at Kensington, aged forty-eight. Dr. Chuckerbutty also held the post of surgeon-major in the Bengal Army.

THE medical officer of health for Liverpool, Dr. Trench, reports that during the past week there had been 89 deaths from scarlatina registered in the town—a very large mortality. The disease is mostly fatal in the wealthy quarters of Liverpool.

THE accommodation provided by county and private asylums for lunatics must soon be supplemented. Frequent complaints are made by boards of guardians of the insufficiency of such institutions, and of the great difficulty experienced in removing patients whose treatment requires restraint. The Islington guardians appear to think that in a short time they will be quite unable to provide for their lunatics.

WE understand that Dr. Vandyke Carter, by permission of the India Office, is to follow up his recent visit to Norway, where he was sent to investigate the prevalence, characters, and pathology of leprosy, by a visit to Algiers, Italy, Greece, Syria, and other places in his way out to India, with the view of collecting information concerning leprosy and its allies, such as pellagra and the like.

ANOTHER Waterloo veteran has passed away in the person of Dr. Matthias Kenny, who died this week at Monkstown, Dublin, in the eighty-eighth year of his age. Dr. Kenny was in 1810 appointed assistant-surgeon to the Royal Artillery, and in that capacity served through the greater part of the Peninsula. He was under fire on the memorable 18th June, and held the Waterloo medal.

DR. FRANKLAND, F.R.S., reports that the water supplied by the New River Company during the past month contained an unusually large proportion of organic matter. In the East London Company water all evidence of previous sewage contamination had been destroyed by long storage. The Kent Company supply, from deep chalk wells, was "clear, transparent, and wholesome."

DURING last week there were registered in London 1127 deaths, including 13 from measles, 75 from scarlet fever, 8 from diphtheria, 14 from whooping-cough, 33 from different forms of fever, and 29 from diarrhœa. No death from small-pox was recorded. Of the whole mortality, 197 deaths occurred in the large public institutions.

WE believe we are correct in stating that the Indian Government has ordered a new investigation to be undertaken relative to the nature and cause of the Delhi sore, and that Drs. Cunningham and Lewis have been instructed to undertake the microscopical portion of the inquiry.

STAFF-SURG. THOMAS COLAN, M.D., Sir Gilbert Blane Gold Medalist, who successfully treated Commodore (now Sir Edmund) Commerell, who was wounded on the Prah, has been appointed to H.M.S. *Unicorn* drill-ship at Dundee.

LORD ROSEBERY opened the Social Science Congress at Glasgow on Wednesday by a brilliant address, in which he made pointed reference to sanitary and educational reform. We shall refer to it more particularly next week.

FOR the three German war vessels to be stationed in East Asiatic waters, a hospital containing sixty beds will be established at Yokohama. It will be under the superintendence of the military physician.

THE health of Kingston, Jamaica, is far from satisfactory. Small-pox is raging, and measles prevalent. Fevers of a low enteric type are common, but are more or less connected with the other epidemics.

WE understand that a tenth edition of Mr. Peter Squire's "Companion to the British Pharmacopœia" will shortly be published.

M. CLAUDE BERNARD has been chosen Director of the French Academy.

PROFESSIONAL SKETCHES.

THE MEDICAL STUDENT.

THE medical student who is just beginning work in London, and to whom, primarily, all the wisdom and advice of the Introductories is addressed, is a different kind of person from his predecessors of fifty or even of twenty years ago. His more remote predecessor had to undergo a much longer journey—probably in a stage-coach—before reaching the scene of his labours. The sense of distance from home was greater, and correspondingly so, doubtless, were the strangeness and loneliness of London. Now only part of a day elapses between the time when the student leaves his home and settles down in his lodgings in town. Still, without crediting our first-year's man with more sentiment than a youth of seventeen would like to acknowledge, home will still be figuring in his imagination more largely than London or anything in it. No matter what the home may be—a snug rectory, the abode of comfort and culture, like those from which Jenner and Brodie came; or a Scotch manse like that in which Matthew Baillie was born; or a humbler home, like those of Huxham, Akenside, and Gooch,—the memory of it will be inspiring and elevating. It is a queer change, that from provincial life at home to London life in lodgings, before work is begun, or acquaintances formed, or anything is discovered to be in London but unfamiliarity. It is a drop for a youth who may have been made much of by the "old folks at home" and the young folks too, to find himself suddenly away and alone among millions who are absorbingly occupied in their own pursuits, and to whom his cares and feelings and duties seem to be matters of perfect indifference. By all means let him cherish home thoughts—they will keep him right and they will spur him on to work. He will soon find that London is wonderfully rich in *homes*, which will remind him of all that is good in his own, and where he will be welcomed. Meantime let him, we repeat, remember his own and all that he prizes and reveres in it; let him consider the undertaking upon which he is launched and the confidence in him which is implied on the part of relatives in sending him to a large town. Such reflections will make an indolent man industrious, and will dispose a youth of even vicious propensities to consider his responsibilities.

There are other differences between the medical student of the present day and his predecessors more or less remote. He is less informed than they were in the routine of medical life; disease and patients and practice are more unfamiliar; he has not long left school or college, and has not had that much-abused apprenticeship to a worthy apothecary, in which men like Cullen and Fothergill laid the foundation of some of that aptitude and sagacity which they afterwards displayed in practice. Let us hope that, knowing less of physic on entering upon their medical studies than their predecessors knew, they know more of other things, and that, having more to learn of physic than their predecessors had, they will address themselves to the duty with more diligence.

Immediately after the excitement of the opening day of the session is a trying time to the medical student. Subjects for dissection are not forthcoming, and, if they were, the work is repulsive and uninviting; chemistry is still drier and less attractive than anatomy. There is no sign or prospect of any examination at present—anything that will test whether one is studying or not. This is the moment at which a serious student sometimes gets desponding about the profession that he has chosen. He feels no ardour for his work, and thinks "perhaps, after all, I should have done something else—gone into business, ate dinners in the

Temple, or studied for the Church." We have a strong word of advice to all good fellows who think this way: Begin work, attend lectures, above all dissect, get your hand in. Be assured that the best men have had these same feelings—Brodie in particular had,—and that they melt away under the heat of work. One word more we have to say in regard to this mood of depression and doubt at the beginning of your work. It is this: Hold no parley while you are in it with a certain style of man who is sure to turn up. He will probably present himself at your door with a pipe of tobacco in an active state of combustion, and suggest an evening of entertainment, a game of some kind, the theatre, or Evans's—none of which things you came to London for, none of which things will cure the depression of the few early days of unsettledness, and in which you find it difficult to get into full work. There may be time for these things, but the good student will postpone them, and refuse to do anything till he has got into the middle of the work which is prescribed for him by his conscience and the regulations of the General Medical Council. There is another character to be guarded against—the man who is always talking about examinations, and is never getting ready for them. It is the peculiarity of this gentleman that he knows the curriculum required, but nothing else. He may have picked up a few of the smart crotchety questions with which bad examiners torture students, but of any sound knowledge implying trouble he is destitute, and, as a companion, he is to be shunned.

A good student soon gets over any temporary period of depression and doubt. In every school there are teachers of eminence whom it is profitable to watch; there are companions in study with whom it is a pleasure to work, and, as it were, to compete. Medical study itself is becoming more and more interesting, because more and more precise and useful. Under these circumstances every day brings fresh knowledge and fresh interest; and before the good student has well realised that he is from home, or begins to feel that Nostalgia which attacks the best student often the most acutely, he is conscious of having done real work, and of being half ready for the examination of which he rarely speaks. He is far less fussy than his lazier companions. He can take time to sleep well. He can afford to observe the Day of Rest, and now and again to have a day's holiday. He is not narrowly ignorant of other schools, but even when he is occupied with the first half of the medical curriculum he can spare time to peep at the work of the great physicians and surgeons of other hospitals, whose fame is the common glory of the profession.

The medical student who is further advanced, and who is worthy of his name, begins already to feel steadied by the nature of his studies and the sense of coming responsibilities. Happy the student who, in every case he sees in hospital, seems to see one which he has himself to treat, and on the treatment of which his own happiness and the patient's life will much depend.

RECEIPTS AND EXPENDITURE OF THE COLLEGE OF SURGEONS.

FROM the annual statement of the receipts and expenditure of the College of Surgeons from Midsummer day, 1873, to Midsummer day, 1874, which has recently been issued with the new Calendar, it appears that the fees paid at the several examinations for the diploma of fellow or member realised £10,529 5s.; interest on stock in Government securities and rents produced £2088 13s. 10d.; trust funds, £247 8s. 3d.; elections to the Fellowship, Council, &c., £210; miscellaneous receipts, £17 14s. 2d.; making the total income of the College from all sources during the year, £13,093 1s. 3d. (and not £16,596 5s. 11d., as recently announced in a contemporary). The disbursements over the same period were £12,672 14s. 5d., showing an increase of receipts over expenditure of £420 6s. 10d. in the year.

Correspondence.

"Audi alteram partem."

THE STATISTICS OF OVARIOTOMY.

To the Editor of THE LANCET.

SIR,—Statistics are the enumeration of facts, or of the results of any series of actions or processes classified within as narrow limits as possible, so as to admit of easy comparison.

Statistics of operations fall under the same description, and to be worth anything at all, as well as for the sake of those for whom they are drawn up, whether for the profession, as a guide to probable results, or for the public, as a means (sometimes fallacious) of finding out the best operator, they should be so accurately classified as to exclude from the calculations depending upon them all sources of error. For instance, in drawing up statistics of amputations of the thigh, cases should be classified as to whether the amputations are primary or not, whether after injury entailing loss of blood or not, whether after chronic disease, compound fracture, &c.

The reviewer who has tabulated the cases of ovariotomy performed at the Hospital for Women during the year 1873, as published in your last issue, has either been ignorant of the accuracy of classification necessary to make statistics valuable, or has not taken the trouble to make his table of any use to anybody. A bare list satisfies no one, and withholds the very information that is sought for in tables as guides in the future. In the list of Dr. Meadows's cases, the reviewer—who has taken care to inform himself of his cases—gives "extenuating circumstances" in two out of the three fatal cases, in the statement that the operation was done at the "expressed wish" of the patients; whereas my cases, which unfortunately present a far higher rate of mortality, are put down without any remark to throw any light on a result which, to most people, would be otherwise inexplicable.

Now no medical man ever performs or ought to perform an operation, especially one so grave as ovariotomy, without the "expressed wish" of his patient, so I fear that this remark will not help your readers who may be seeking accuracy of statistics in operations.

The series of my cases for 1873 is a very interesting one, and I think I shall be able to show in a few words that in each fatal case there were circumstances that made the issue of death the more probable result. Some one will ask:—"Why, then, was the operation undertaken?" Simply because, though more than usually hazardous, yet the operation seemed to hold out some hope of cure, and, at all events, to be the only method of procedure that appeared at the time admissible.

And here I may be permitted to remark that I hold that operators should at all times consider more the good of their patients than the desire to maintain the statistics of their operations in a favourable light.

I may at once dispose of case No. 23 (the last on my list) by saying that, as far as ovariotomy is concerned, it should have been placed on the opposite side of the balance (making four recoveries to five deaths), as the disease from which she died was not, I suppose, originated by the operation, and did not certainly exist, as far as observation could be made—and that was easily done—at the time of the operation.

But to take them in their order, according to the number of the cases in the reports:—

(2.) Operation Feb. 1st. Patient was tapped Jan. 11th, and eighteen pints of horribly offensive pus drawn off. After this the pulse was frequent, and the temperature rather high. Seeing that there was no amelioration, and

having regard to the dangerous nature of the contents of the cyst, it was considered the best thing for the patient to remove the cyst. She died on the second day. A colourless clot extended from the right ventricle into the pulmonary artery.

(9.) July 31st tumour aspirated. Thick, greenish-brown fluid drawn off; then, from a deeper cyst, a purulent curdy fluid containing hairs, and bone was felt with the point of the trocar. Symptoms of inflammation of the cyst supervened, and as neither the pulse nor the temperature abated (pulse 120, temperature 102° F.), my colleagues agreed that ovariotomy without delay was her only chance. She died in thirty-two hours. Patches of lymph were scattered over the intestines.

(13.) The admission of this patient was delayed some weeks, and in the meantime she had an attack of peritonitis in the country, which, continuing after the operation, carried her off in fourteen days.

(19.) A charwoman, aged fifty-two, unable to work, emaciated, and cachectic. In reference to this case, one of my colleagues said to me, "If you regard your statistics, you won't operate in that case; but if you consider the good of your patient you should." I did it; the case was a complicated one, and she died the next day.

(20.) This was a remarkably interesting case. Aged fourteen, and thought to be suffering from extra-uterine gestation. There were four consultations in seven days, including two when the whole staff were present in one day (December 16th). Inflammation had arisen in the cyst, and all agreed (though not as to the diagnosis) that an operation was imperative. The tumour was found to be a double malignant growth of both ovaries, and though the operation relieved, and probably prolonged life, yet the patient died in three days.

(23.) I have already referred to as dying two months afterwards of a disease (cancer) in no way connected with the operation, from which she had recovered.

I do not think, Sir, it is in accordance with the ordinary rules of courtesy for anyone to be allowed to take a medical man's cases, even though they may be sent in to a periodical as hospital reports, and tabulate them in a haphazard way without his leave, and by so doing, ignorant of the circumstances that would enable the statistics to be properly classified, giving an unjust impression to your readers. A medical man might surely be allowed to select his own time for the publication of the statistics of his operations.

I remain, Sir, yours faithfully,

Portugal-street, Grosvenor-square, September 28th, 1874. HEYWOOD SMITH.

*** Our correspondent has evidently misunderstood the object we had in view in publishing a statistical table of the cases of ovariotomy performed at Soho-square Hospital during the past year. The table was drawn up entirely from the notes that had already been fully reported in our columns. If it had been intended that the table should give a full and complete account of the cases, we should not have published the details of each case separately, nor appended any notes or comments. Special care was taken to state in the table the number of each case as previously reported, so that reference might easily be made to the original notes. That we were actuated by unfair motives in compiling the statistical list we repudiate and deny. In each case we endeavoured to state accurately the cause of death. We regret that Dr. Heywood Smith was so unfortunate as to obtain all the worst cases, but we do not think that others should be saddled with a higher rate of average mortality than really attended their operations. Dr. Smith's attempts at self-justification would be amusing if they did not at the same time advance a dangerous doctrine. He says that "in each fatal case there were circumstances that made the issue of death the more probable result." In other words, he affirms that death was, from the first, more probable than recovery. If this was Dr. Heywood Smith's opinion at the time, we beg to differ from him in the decision that an operation was justifiable. At the very worst, an operation is justifiable only when the chances of life and death are about equal. By what process of reasoning Dr. Heywood Smith came to convince himself that operative interference was justifiable when death "was the more probable result," we are at a loss to understand. If, in a given case, such were the probabilities, it would be the duty of the medical attendant to decline to directly hasten the death of a patient who was already doomed. It is but natural that a man or a woman should desire to be rid of a malady that is threatening life, but this is surely not a justification for operative interference if death be "the more probable result." It is neither an act of humanity nor of kindness to shorten a person's life by an operation simply because he has expressed a wish that "something should be done." Such practice can only bring disappointment to the patient and his friends, chagrin to the operator, and opprobrium on the profession. We demur to Dr. Heywood Smith's dictum that no operation should be done except at the expressed wish of the patient. The surgeon is the best judge of the advisability of an operation. We grant that no operation should be done against the wish of a patient, but if a medical man hazards the life of his patient merely because he has expressed a desire to be relieved of his disease, he at once sacrifices his individuality and his professional existence to the cravings of a despairing, dying man. We fully concur with Dr. Smith that "operators should at all times consider more the good of their patients than the desire to maintain the statistics of their operations in a favourable light." But if the death be the more probable result, he does not consider the good of his patient. More than this, he may bring reproach on himself or on the operation by increasing its average mortality. We do not wish to imply that Dr. Heywood Smith had not the good of his patients in view when he performed his operations; and a reference to the notes of the cases as originally published will show that more than ordinary dangers and difficulties attended all the fatal cases. Dr. Smith has not given any explanation of his cases beyond what we had already published in the original notes, and a reference to our table will show that in every instance we endeavoured to state "extenuating circumstances." Finally, we may remark that Dr. Heywood Smith is at perfect liberty to collect his own statistics and place them in any light most favourable to himself or to the nature of the operation, but we distinctly maintain that we have not exceeded our duty in compiling a statistical table or making any fair comments on cases that had already appeared in the "Mirror of Hospital Practice." If the notes had been published as original articles, the case would have been different; as it was, we could not tabulate the cases by the operators only, and Dr. Smith does not complain of any unfairness on our part towards his late colleagues.—ED. L.

CONVALESCENCE FROM SCARLET FEVER.

To the Editor of THE LANCET.

SIR,—I am induced to direct attention to what must be considered a dangerous laxity of practice as regards the conduct of cases convalescing from scarlet fever.

During the present prevalence of this malady, it is a common occurrence for children to be brought to the hospital within a week or ten days of their illness, and I have been assured that in some instances permission has been given by their medical attendants for this departure from known rules. It must be obvious that great risk is run by such practice, both by the patients themselves and by other occupants of the out-patient waiting-rooms.

In a different sphere of practice I have recently met with instances of the same disregard of precautions, also under medical supervision, and it really seems necessary to call attention to this matter. The teaching of the books is sufficiently clear and dogmatic upon the point, and in

hospital practice the greatest attention is paid to convalescence from scarlet fever.

It would however appear highly advisable that an inflexible rule should be made for all cases, and the patients should be *confined to their beds for three weeks*, or until desquamation is completed all over the body, *and kept to their bedrooms for a week or ten days longer*. There can be no doubt that a vast amount of renal and other complication would be absolutely avoided if this simple precaution was carried out.

The public would more willingly accede to this strict rule if they were at once apprised of the possible gravity of an apparently mild case, and of the identity of the term scarlatina with scarlet fever.

I have the honour to be, Sir, your obedient Servant,

DYCE DUCKWORTH, M.D.,
Assistant-Physician to St. Bartholomew's Hospital.
Grafton-street, W., Sept. 28, 1874.

Obituary.

WILLIAM BATES, M.D., F.R.C.S.

THE death of the late Dr. Bates, of Manchester, on September 9th last, took the profession, as well as his numerous friends and patients, by surprise, although it was known by all that he had been a great sufferer from the passage of gall-stones during the last three years. To his family it was too plain that he had been aging faster than he should, but his buoyant spirits made him always speak sanguinely of his own case. He had passed several pillboxfuls of dark polyhedral calculi, which he was in the habit of carrying with him, and looked upon as a trophy of victory. He had only just returned from New Brighton, after a six weeks' holiday, having there taken long walks, and enjoyed life more than he had done during any equal period of the three years. The acute attack, which proved fatal in only three full days, was supposed by himself to be but one of the series which had passed, and to be of a much milder nature. It proved, however, to be suppurative inflammation of the gall-ducts, as revealed by the post-mortem examination, which was made by his frequently expressed request. Both the symptoms and the pathology possess, independently of this request, some points of interest.

Dr. Bates was an enthusiast in his profession, having of his own accord left his father's print works for the purpose of medical study. He was articled to the late Mr. Dunlop, of Bury; he graduated in Edinburgh; and by the advice of Sir James Bardsley, who was pleased with a paper of his on Diabetes, settled in Ardwick twenty-eight years ago, where he had continued to reside, and had carried on a most extensive and successful practice. Till a short time before the nature of his complaint was demonstrated, no duty, by night or by day, was felt to be laborious; and, nevertheless, he found time to read largely, and formed on all subjects his own definite and original opinions. His perception was quick, his action prompt and decided, and he was fertile in resources. As a result, the confidence of his patients was unbounded, and their affection to him personally was only surpassed by their trust. Kindness was the law of his life, and in his own house he was never known to speak an angry word. Such an one should not pass from among us without notice.

Epileptic seizures were coincident with the passing of the calculi, and occurred on ten occasions. He was first seen by Dr. Lloyd Roberts and Dr. Roberts, as also by the late Mr. Beever and Mr. Dumville. In London he consulted Mr. Berkeley Hill and Dr. Wilson Fox, under whose care he remained two months, and then, on their advice, visited Belgium. On returning Mr. Blackstone kindly visited him in the absence of Mr. Berkeley Hill. Sir William Jenner and Dr. Radcliffe were also consulted. At home, during the many anxious seasons, he was sedulously and affectionately attended by Dr. Noble. Acting most faithfully upon the advice thus obtained, Dr. Bates lived very regularly, took no stimulants, kept the bowels right by Carlsbad salts, and gave full trial to the bromide of potassium, and then, for the greater part of the time, to the bromide of ammonium.

The fatal illness commenced on Sept. 6th inst., the day after his return home from the seaside. He made a long round in his brougham in the morning, but was thought by his wife to be tired on his return. Soon after he had pain in the right side and a rigor, like what he had so often experienced before; there was a slight quiver of the upper lip. The pain passed away in half an hour, and he retired to rest, being unusually drowsy. On the 7th he was fairly well, but jaundiced; he saw one or two patients at home, and rose from his chair with a difficulty never before noticed. The bowels were excessively acted upon by a double dose of Carlsbad salts and a pill containing a grain each of mercury, hyoscyamus, and colocynth. Pain returned at 8 P.M., and Mr. Bishop, his partner, gave him chloroform, and later on fifteen minims of nepenthe, with ten minims of chloric ether, in consequence of great restlessness; he had had a warm bath, which he very reluctantly left. On the 8th he was persuaded to remain in bed; the respiration was frequent, and the speech thick and husky. These symptoms alarmed Mrs. Bates and Mr. Bishop, and, in the absence of Dr. Noble, they sent for the writer. At 9 A.M. the pulse was 120, the temperature 102·5° F., and the tongue furred. There was easily-roused consciousness, but no pain or tenderness over the liver. Tepid sponging was used; whey was given as a drink, and the citrate of potash in effervescence. In the afternoon of the 8th, the pulse and respiration were the same, the temperature 103·1°; tympanites had become very marked. There had been no micturition since eleven o'clock on the evening before, and yet the bladder was not distended. Dr. Bates had not spoken during the day, but during the visit he answered several questions intelligently—as, e.g., that he had no pain, not even on pressure over the hypochondrium. A turpentine enema was administered with a long tube, but the sphincter was partially paralysed, and much of it returned. A large poultice was placed on the abdomen, and at 11 P.M. seven ounces of urine were removed by the catheter. The urine was of deep colour, sp. gr. 1032, and became opaque throughout on the addition of nitric acid. This caused fresh alarm, as nothing was known of the previous condition of the kidneys. At the consequent consultation it was agreed to administer one drachm of the compound jalap powder, and a hot-air bath was given, which gradually seemed to occasion profuse perspiration. No notice was taken by the patient of the catheterism, but he nodded assent when questioned; coma, however, increased, till it became dangerous to use the feeder. The respiration became more and more noisy and frequent; fluid ran out of the right side of the mouth, and the left arm moved involuntarily. Death took place at 4.45 A.M. on the 9th.

A post-mortem examination was made twelve hours afterwards. There was much hypostatic congestion; much frothy mucus had oozed from the mouth; decomposition had already set in. The body was well nourished, the subcutaneous adipose tissue of the abdomen being about three-quarters of an inch in thickness. On making an accidental incision into the liver, bubbles of gas escaped freely; the blood was fluid everywhere. On exposing the liver, which was very large, the surface appeared like polished port-wine-coloured marble, many patches of lobules, well defined, being more deeply coloured than the rest. But what attracted special notice were aggregations of whitish spots here and there, some of them being slightly raised, suggesting at once disseminated cancer. They proved to be the terminations of dilated bile-ducts, filled with pus; some were quite as large as peas, and looked like round cysts on incision. On the concavity of the right lobe, the ducts in one place were enlarged to the size of one-eighth of an inch in thickness, and presented whitish branchings, just like bluish branchings produced by liver flukes. One long white patch was found to be an old cicatrix. The gall-bladder was concealed by old adhesions to the omentum and mesocolon. On dissection the common duct was found to be so much enlarged that it appeared almost exactly like a portion of small intestine. The gall-bladder was enlarged but not distended. It contained many small black polyhedral calculi, like those which were passed during life, with a thinnish fluid containing brownish flakes resembling fæcal matter rather than bile. The hepatic duct was distended by two large and irregularly-shaped calculi for about two inches and a half; they were each about the dimensions of a bantam's egg, though not the same in form; many projections on each were impacted in enlarged ducts which

opened into the hepatic; had they been smooth and roundish, the common duct was quite capable of allowing them free egress. All the ducts everywhere were proportionately dilated, and contained calculi of every intermediate size, from marbles to large grains, just like renal lithic gravel. Literally, reckoning these, there were thousands of calculi. These enlarged ducts were traced, without any difficulty, but simply by free incisions, with the white spots mentioned at the commencement of this report. The kidneys were congested, and a section was almost uniform in colour throughout, but the cortical substance was everywhere of normal thickness. The other organs were not examined. The gall-bladder and ducts have been preserved.

Medical News.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine and received certificates to practise on Sept. 24th:—

Bell, John Duncombe, Antigua, West Indies.
Gallimore, Thomas, Manchester.
Ha lam, William Doidge, Redhill, Surrey.
Steward, Alfred, Newton-heath, Manchester.
Southam, John Binns, St. George's-road, Bolton.
Towt, Geo. Fred. Ewens, Crewkerne, Somerset.

The following gentlemen passed the Primary Professional Examination on the same day:—

John Hague Clegg, St. Bartholomew's Hospital; Edward George Dutton, Guy's Hospital; Alex. Thomas Scott, Middlesex Hospital.

At the Preliminary Examination in Arts held at the Hall of the Society on Sept. 25th and 26th 124 candidates presented themselves, of whom 34 were rejected, and the following 90 passed and received certificates of proficiency in general education:—

FIRST CLASS (in order of merit)—1st: Z. Mennell. 2nd: F. J. Butler and Henry Pearce. 4th: T. F. P. Adolphus, T. H. May, H. F. Stokes, and T. S. Tuke. 8th: T. A. Appleton, James Harrison, M. G. C. Hoskins, P. Peacock, S. C. B. Robinson, A. Weakley, W. Whitworth, and F. W. Woodman. 16th: W. H. S. Mackay, and N. Rushworth. 18th: W. J. Clarke, H. H. F. Eden, A. S. Mackrell, and T. P. Pemberton. 22nd: W. S. Battis, B. Gilchrist, and C. A. Hebbert. 25th: T. A. Evans, H. D. Mackay, J. W. Payne, and G. Stevenson.

SECOND CLASS (in alphabetical order).—John Allnutt, A. E. Benthall, R. C. Birch, Herbert Blott, C. A. Bloxsome, T. Bushby, C. Collett, G. W. Collins, H. L. Cortis, Arthur Cross, J. H. W. Davies, R. A. Davis, L. Dresser, Ernest W. Edwards, A. G. S. Findlay, W. H. R. Forsbrook, B. H. J. Gardiner, Alfred Gibson, E. Godson, W. B. Gould, F. Gravely, Ernest Grey, W. C. Guthrie, M. H. Hale, W. H. Hall, F. A. Harris, U. A. Carpenter Harris, L. R. Heyland, P. H. Hogg, T. Hopps, H. J. R. Hosford, W. H. Iorns, E. M. Knapp, A. W. Knight, I. A. Langley, J. Lofthouse, J. S. M'Donagh, Arthur Manners, A. Mantle, T. H. Morse, H. J. Palmer, A. B Payne, G. L. Pardington, F. Parish, Ernest Rawson, G. A. Roper, A. E. Rowcroft, F. M. G. Smith, H. R. Spackman, J. W. A Steel, Charles Edward Steele, J. M'Dougal Stewart, J. Sutcliffe, Edgar Taylor, C. Molesworth Tuke, G. Bayleigh Vicars, H. Pinkney Wakley, Laurence N. Walker, Wm. Sparrow Watson, Alfred G. Wells, Wm. Fredk. West, Miles Melbourne Williams.

HUNTERIAN SOCIETY.—The first sessional meeting of this Society will be held at the London Institution on Wednesday, the 14th October, at 8 P.M., when Dr. Richardson, F.R.S., will read a paper on the Pathological Results of Pectous Change in Colloidal Structures. Members desirous of introducing papers or cases for discussion are requested to communicate with the Secretaries, Messrs. Gordon Brown and Waren Tay.

BEQUESTS &c. TO MEDICAL CHARITIES.—Mr. Bryce Allan, of Liverpool, bequeathed £500 to the Northern Hospital, £300 to the Southern Hospital, £300 to the Medical Mission, and £200 to the Royal Infirmary, all at Liverpool. Mr. Henry M. Harvey, of Hexworthy, has given £100 to the Launceston Infirmary and Rowe Dispensary, in addition to £150 previously. The Poplar Hospital for Accidents, East India-road, has received £300 from the executors of the late Miss Mary Gray Ratray.

PROFESSOR HUMPHRY'S LECTURES AT CAMBRIDGE. The Professor of Anatomy has given notice that the course of lectures on Practical Anatomy will commence on Thursday, October 8th, at 9 A.M., and be continued daily. The course on Anatomy and Physiology will commence on Friday, October 23rd, at 1 P.M., and be continued on Tuesdays, Thursdays, and Saturdays at the same hour. This course is intended for students of Natural Science as well as for students of Medicine; and gentlemen not requiring certificates are at liberty to attend without fee.

Medical Appointments.

ARMSTRONG, H. G., M.R.C.S., L.S.A., has been appointed House-Surgeon to the Royal Berkshire Hospital, Reading, vice Galpin, resigned.
BEEACH, J., M.R.C.S.E., has been appointed a Medical Officer for the Ilsley District of the Wantage Union.
CUNNINGHAM, J., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the West District of the Belford Union, Northumberland, and Medical Officer to the Workhouse, vice Hunt, deceased.
DUKE, M. S., M.R.C.S.E., has been appointed Medical Officer for the Stratford District of the Samford Union, Suffolk, vice Batchelor, resigned.
FAGGE, H. W., M.R.C.S.E., has been elected Medical Officer of the No. 1 District and the Workhouse of the Lutterworth Union, vice Coleman, resigned.
GRAMSHAW, F. S., M.D., has been appointed Medical Officer and Public Vaccinator for the Stillington District of the Easingwold Union, and Medical Officer of Health for the Stillington Sub-district of the Easingwold Rural Sanitary District, vice Teasdale, resigned.
LAWTON, M., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed a Medical Officer for the Midleton Dispensary District of the Midleton Union, Co. Cork.
MASON, W. I., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer to the Loyal Protector Lodge of Odd Fellows, Sudbury, Suffolk, vice M. Mason, M.R.C.S.E., resigned.
MIDDLETON, W. H., L.R.C.S.I., L.K.Q.C.P.I., has been appointed Medical Officer to the Westmeath County Infirmary, Mullingar, vice Ferguson, deceased.
MOORE, E. W., L.R.C.P.I., M.R.C.S.E., has been appointed Medical Officer of Health for the Twickenham Urban Sanitary District: £50 for one year: acreage 2240; population 10,535.
PAREY, T. S., M.R.C.S.E., has been appointed Resident Medical Officer's Assistant and Senior Clinical Assistant to the Hospital for Consumption and Diseases of the Chest, Brompton, vice Bartlett, resigned.
SHAW, R., M.B., C.M., has been appointed Parochial Medical Officer and Public Vaccinator for Dailly, Ayrshire, vice Hunter, resigned.
STEWART, D., M.B., L.R.C.S.Ed., L.M., has been appointed House-Surgeon to the Blackburn and East Lancashire Infirmary, vice Williams, resigned.
WHITE, W. L., M.B. C.M., L.S.A., has been elected House-Surgeon and Superintendent to the Southport Convalescent Hospital and Sea-bathing Infirmary, vice R. M. Craven, L.R.C.P.Ed., M.R.C.S.E., resigned.
WIBLIN, J., L.R.C.P.Ed., F.R.C.S.E., has been appointed Medical Inspector of Passenger Ships at the Port of Southampton.
WILSON, R. A., M.B., C.M., has been appointed Medical Officer to the Lunesdale Union Workhouse, and Medical Officer and Public Vaccinator for the No. 1 District, vice Bradley, resigned.
WOOD, W. J., M.R.C.S.E., has been appointed Medical Officer for the Ilsley District of the Wantage Union.

Births, Marriages, and Deaths.

BIRTHS.

ATTHILL.—On the 21st ult., at St. Osyth, Essex, the wife of R. C. Atthill, L.R.C.P.Ed., of a daughter.
BINGHAM.—On the 17th ult., at Church-street, Alfreton, the wife of J. J. Bingham, L.R.C.P.Ed., of a son.
JOHNSON.—On the 21st ult., at Gloucester-street, Newcastle-on-Tyne, the wife of G. B. Johnson, M.R.C.S.E., of a son.
M'NAB.—On the 28th ult., at Vernon-parade, Clontarf, the wife of W. R. M'Nab, M.D., Professor of Botany, Royal College of Science for Ireland, of a son.
SIMPSON.—On the 21st ult., at Queen-street, Edinburgh, the wife of Professor Simpson, M.D., of a son.

MARRIAGES.

HAMILTON—CHIRAS.—On the 24th ult., at St. John's, Chester, Alexander Hamilton, L.R.C.P.Ed., to Bertha Anne, daughter of the late George Chiras, Esq.
SPEIRS—CLARK.—On the 26th ult., at Glasgow, William Speirs, L.R.C.P.Ed., M.R.C.S.E., to Catherine Colbron, daughter of Wm. Clark, Esq.

DEATHS.

HUNT.—On the 22nd ult., Richard T. Hunt, M.R.C.S.E., of Disley, Cheshire.
LOMAX.—On the 16th ult., H. I. Lomax, L.R.C.P.Ed., of Cheadle, Cheshire, aged 62.
MANN.—On the 21st ult., C. W. Mann, M.R.C.S.E., of Bridlington-quay, aged 55.
ROBINSON.—On the 21st ult., C. H. Robinson, M.D., of Stockport-road, Manchester, aged 32.
TATE.—On the 23rd ult., at Wallington Lodge, Farcham, Hants, George Ralph Tate, M.D., late Royal Artillery, aged 39.

[N.B.—*A fee of 2s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

BOOKS ETC. RECEIVED.

Drs. Guy and Ferrier: Forensic Medicine.
Dr. Simms: Nature's Revelations of Character.
Dr. Tyndall: Address delivered before the British Association at Belfast.
Mr. Gale: Clinical Atlas of Skin Diseases.
Mr. Hogg: A Microscopical Examination of certain Waters.
Mr. Robertson: Betrayal of Metz.
Dr. Chapman: Medical Charity.
Mr. Lloyd: A Treatise on Magnetism.
Brinkley's Astronomy. Mr. Marey: Animal Mechanism.

Notes, Short Comments, and Answers to Correspondents.

Momus Medicus.

"Philogelos," the title given to a collection of the witticisms of Hierocles and Philagrius by their latest editor Eberhard, contains some amusing *mots*, in which the point turns on medicine and its practitioners. A patient having had his uvula cut, was bidden by the surgeon not to talk. He accordingly made his slave acknowledge for him the "good mornings" of visitors, but kept saying to each, in the plenitude of his politeness, "Don't take it as an affront if my slave salutes you in my stead; my medical man has bidden me not to talk." Another "scholasticus," as Hierocles calls him, having fallen ill, agreed with the physician that he would pay him if cured. So when his wife checked him in the act of drinking wine when in a high fever, he rejoined, "What! Would you have me get well, then, and pay the doctor his fee?" There is more wit in the reply of another scholasticus, who, being attended for ophthalmia by a communist physician, had his lamp stolen by him and pawned. "How are your eyes?" asked the doctor next day. "Bad enough!" returned the patient. "Since you pawned my lamp I cannot see it." The convalescent scholasticus, again, is the subject of other facetious anecdotes. Overwhelmed with gratitude for his recovery, he slipped out of sight on seeing his physician approaching. "'Tis some time," said he in explanation, "since I have been sick, and really I am ashamed to be seen by him." The next is a better example of *mauvaise honte*. A doctor gave up a Cumæan patient, who, however, recovering, shirked the doctor. To the latter's inquiry for the reason, the patient said, "Why, you said I was dying, and so I am ashamed to be alive and well." This has its counterpart in modern days, when a physician said to a conscientious consumer of his physic, "Ah! my dear sir, you deserve to be ill." Gratitude to the Greek practitioner, however, was not always a well-founded sentiment, if he resembled the Cumæan surgeon, who, operating on a patient who screamed out with pain, exchanged his knife for a blunter one. It must, we suspect, have been the same operator who, having dressed a scalp wound, laid the patient on his back, and poured water into his mouth to see if the plaster was water-tight. To another of these practitioners a patient complained that he could not lie down, nor sit, nor stand without pain. "There is nothing left for you, then," said the Greek Abernethy, "but to be—hanged." Another anecdote of the same stamp relates how a doctor, also of the Abernethy temper, and possessed of but one eye, asked his patient, "How do you find yourself?" "As you see," was the answer. "If," retorted the physician, "you find yourself *as I see*, one-half of you is dead." Other professions besides the medical, however, come in for their share of banter or compliment in "Philogelos," as the classical reader will find on dipping into Eberhard's edition, which may be had of Messrs. Williams and Norgate, or Mr. Nutt.

Mr. John Foster's paper shall be published next week.

Death of a Child in a remarkable way.

To the Editor of The Lancet.

Sir,—About a month ago a boy, aged four years, attended the hospital with his mother as an out-patient. He had two small abscesses of the scalp above the occiput, opening into each other. They had been poulticed for several days, and one abscess presented a small opening. I made another small opening at a more dependant place, and gently pressed out the contained matter. The boy, who was very timid, began to cough, and showed symptoms of suffocation. We attributed it to spasm of the glottis. He revived a little, and was carried to a bed in one of the wards. In a few minutes the attack of suffocation returned. We gave him nitrite of amyl to breathe, still supposing it to be spasm of the glottis. He appeared to revive, but only for a minute. We then used artificial breathing and electrical stimulation, during the employment of which tracheotomy instruments were sent for to the General Hospital. These not being forthcoming, Mr. Adams performed tracheotomy, and very successfully, with what ordinary instruments we had, but to no purpose. The child rapidly died. There was no history of his having anything in his mouth, nor could we discover aught. Mr. Adams considered, however, that he must have died from some foreign body entering the windpipe.

The autopsy next morning, in the presence of the father of the child, revealed a piece of partially digested mutton, about the size of a bean, in the larynx, and the right bronchus full of vomited matter. The stomach had evidently thrown up its contents during the opening of the abscess, and fear paralysing or otherwise interfering with the sentient apparatus of the glottis, the vomit had been allowed to enter the windpipe.

I remain, Sir, yours truly,
W. W. Smyth.

Kent County Ophthalmic Hospital, Maidstone, Sept. 1874.

Enquirens.—It is not a matter that should be referred to a medical journal. There is no question of *professional* etiquette involved in the case. We do not wonder that our correspondent should feel annoyed at the course pursued by the reverend gentleman.

Mr. W. J. Greene.—We regret we cannot find space for the article.

A Home for Cripples.

To the Editor of The Lancet.

Sir,—Will any of your readers kindly inform me if there is any Home for Cripples, where a boy of twelve, who has suffered amputation of one foot, could be received and taught a trade?—Yours faithfully,

September, 1874. A Constant Reader.

Exhibition of Insects.

This exhibition was opened at Paris on the 6th of September, in the presence of the Secretary of State for Agriculture and Commerce, several professors of the Museum of Natural History, and members of the press. The greenhouse for orange trees attached to the Tuileries gardens has been chosen for the exhibition, which comprises all the known insects, including both the useful, as the silkworm and bees, and the destructive ones, as the caterpillars, &c. The collection presents the largest as also the smallest microscopic insects, the whole accompanied by explanatory papers. Among the objects of interest are the productions of useful insects, and models of the destructions of which the noxious insects are capable. Tools and specimens of beehives are seen, as also the numerous instruments used for the destruction of insects.

We have received from *Mr. Lawson Tait* a subscription to the Anstie Testimonial Fund, which we have forwarded to the Treasurer.

Phlegmasia Alba Dolens before Confinement.

To the Editor of The Lancet.

Sir,—Perhaps the following case may be interesting to some of your readers.

On June 7th I was summoned to see Mrs. S——, a lady I was engaged to attend in her approaching confinement, and who was at the time in her seventh month of pregnancy. On arriving I found her lying on a bed, evidently in great agony. She complained of great swelling and pain down the left thigh and leg, also on the right side over the liver, and in the back over the right kidney. On examination, I found the left thigh and leg enormously swollen, the skin being perfectly white, tense, and very glossy; all the veins being like hard cords above its surface. There was extreme tenderness along the course of the saphena vein, as well as over those on the back part of the calf of the leg, over the right kidney, and in the left iliac fossa, the slightest movement causing excruciating agony. I could detect nothing except slight fulness and tenderness over the left lobe of the liver. She complained of the urine scalding her, and I found it slightly albuminous, but containing no blood. Incessant vomiting; pulse 94, small and congestive. From the date of my first visit to June 13th she became rapidly worse, having violent attacks of diarrhœa, and it was evident she was sinking. On that day I thought it necessary to have a consultation, and it was determined to put her on ammonia, chloric ether, and bark. She rallied slightly for about two days under this treatment, but was so very intolerant that it became impossible to manage her. She would not allow the poultices or fomentations to be applied, or take her medicine. Being a highly hysterical and irritable person, I found her perfectly intractable; and, as she again showed a tendency to sink, I determined to bring on premature labour; but being unwilling to take the entire responsibility on my own shoulders, I again consulted my colleague, and, his opinion agreeing with mine, I performed the following operation, simple, but difficult to perform in her:—I first passed my left hand into the vagina and felt for the os, which I dilated gently with the forefinger until it was sufficiently large to admit a No. 4 catheter, the end of which I had previously cut off, and passed this up to the membranes, which I ruptured by protruding the stilette. Labour set in about eight hours after, and at 5 P.M. on the following day I delivered her with the forceps of a living male child. From this time she had not a bad symptom; the phlegmasia gradually decreased; and, with the exception of some rather severe attacks of diarrhœa, she made a good recovery, and was up in twelve days.

The reason I send this case to you is because I believe it is extremely rare to have phlegmasia alba dolens at the seventh month of pregnancy; but what I consider the more remarkable is the great rapidity with which all the symptoms left her after delivery. It would be interesting, especially to me, a young practitioner, to know the experience of the profession on this point.

Your obedient servant,
September 1st, 1874. Frederic C. Adey, L.K.Q.C.P.I., &c.

Cinnabar.—Cover with a thick layer of iron-filings, and distil. Or cover with dilute nitric acid in a shallow basin; let the mixture stand twenty-four hours, and heat till the mercury is dry. Add water, and evaporate as air. This last answers well, and the yellow nitrate of mercury may be used with water again and again. Particulars of these and other methods are given in Watts's Dictionary of Chemistry, Miller's Elements of Chemistry, and other books.

Mr. Verdin, (Winsford.)—We never recommend a particular surgeon.

Royal London Ophthalmic Hospital, Moorfields.

To the Editor of The Lancet.

Sir,—My attention has been called to a letter in your journal of last week, complaining of the relief given at this hospital to others than the poor.

Will you permit me to inform your correspondent that the authorities of the hospital are using their utmost endeavours to redress the abuse of the institution, and are daily sending away those who apply for advice, but who on inquiry appear able to pay for it. At the same time it is impossible to discover every one of those who attend with a deliberate intention to deceive, and probably those cited by your correspondent were of that class. I can assure you that the Committee have an earnest desire to stay the evil, and would have been pleased if your correspondent could have warned them, in the one case he mentions, where he had the knowledge beforehand that abuse was premeditated and deception intended.

Referring to your note, may I correct the impression it appears to me you entertain, *that the "paying patient" is merely handed over to the surgeon attending the hospital.* Where relief is refused, a list of the staff and their residences is handed to the applicant, and the patient leaves the hospital.

I am, Sir, your obedient servant,
Robert J. Newstead, Secretary.

Blomfield-street, Moorfields, Sept. 30th, 1874.

*** We are glad to find that the changes at Moorfields have recently been so great that a paying patient now "leaves the hospital" after having been shown "a list of the staff and their residences." We were labouring under a different impression.—Ed. L.

CANADIAN CLIMATE.

AMID the correspondence which has lately appeared in the leading journal on emigration to Canada, sufficient notice has not been taken of the climate. So great is the yearly range of temperature in the provinces of Quebec and Ontario, Halifax and Nova Scotia, that none but those of the most robust constitution can stand it. In May, 1871, the range of temperature was as follows:—

	Min. temp.	Max. temp.
Pembroke on the Ottawa	32·0°	93·9°
Goderich, Lake Huron	28·2°	88·8°
Peterboro', Ontario	29·0°	92·8°
Hamilton	29·5°	98·8°

With such extremes, sometimes occurring at very short intervals, it will be inferred that considerable forethought must be exercised by the British artisan or tradesman before he obeys the seductive call of "Westward Ho!"

M.R.C.S. and L.S.A.—We must refer our correspondent to several papers on the subject that were published in our columns some months ago.

POOR-LAW MEDICAL REFORM.

To the Editor of THE LANCET.

SIR,—On looking over the back numbers of the medical journals since my return from my autumnal holiday, I am very surprised to find that so little notice has been taken of Dr. Rogers's valuable paper "On the Economy of the Dispensing System of Poor-law Medical Relief," which should have been read in the Public Medicine Section of the British Medical Association meeting last month. This paper has been printed *in extenso* in the *Norwich Mercury* of the 22nd August last, and has been favourably commented on by certain of the London and provincial newspapers. Considering that the figures which now for some years Dr. Rogers has placed before the profession and the public have never been contradicted, and that the deductions therefrom in his comparison of the English and Irish systems of poor relief have never been otherwise explained, it behoves, I think, everyone specially interested in the welfare of the sick poor, and the medical press in particular, to take every opportunity of commenting on the facts, and forcibly impressing on the ratepayers the beneficial effects, on them as well as on the poor recipients, of the present mode of administering Poor-law medical relief in England and Wales. Let not, however, Dr. Rogers be disheartened. It is not given to one man to perfect this rotten English system. Dr. Rogers has the credit of having broken quite new ground in his study and investigation of this complex problem; and although when ultimate success comes, and the poor, the profession, and the ratepayers are equally content, the then man or men whose ideas are utilised and plans adopted will doubtless reap the immediate credit of the day, still Dr. Rogers's name and efforts must and will be ever gratefully remembered as one of that zealous band of pioneers—Hodgkin, Rumsey, Wallis, Lord, Bottomley, Griffin, and others,—each of whom did his best suit and service in mastering the details of, and furthering an improvement in, the medical treatment of our sick English poor.

I am, Sir, your obedient servant,

ROBERT FOWLER, M.D.,
Late Honorary Secretary of the Association of Metropolitan Poor-law Medical Officers.

Bishopsgate-street Without, Sept. 23rd, 1874.

Mr. A. Rose.—We are obliged to Mr. Rose for the report of the case, which we have read with great interest. We are not aware of any case in England in which it has been decided that mere registration entitles to recover, apart from the nature of the qualifications registered. In our opinion the law is clear that to enforce payment of surgical fees the surgeon must be possessed of a surgical qualification. It is very hard after doing good surgical service, charging very moderate fees, as in this case, to be refused payment. But there can be little doubt as to the law being as we have stated.

STAMMERING.

To the Editor of THE LANCET.

SIR,—A medical friend has just called my attention to an article on "Stammering" in your last number. In this notice you speak of M. Chervin's "method" as if it were *his* original discovery. Permit me to state that for nearly twenty years I have pursued the same plan, with, however, an important addition, of which he does not seem to be aware. I do not say that he has adopted my system, though I confess the resemblance is remarkable; and assuredly I have not borrowed any ideas from his method, of which I have but recently heard. Sir William Fergusson, Dr. Morell Mackenzie, and many other medical men, with the head masters of most of our public schools, have borne testimony to the results.

I am, Sir, your obedient servant,

ALEX. J. D. D'ORSEY, B.D. Camb.

King's College, London, Sept. 28th, 1874.

Nimrod.—Yes; in the Report lately published by the Parliamentary Committee on the Game Laws. Much may be advanced in a general way in defence of the preservation of game. As food for the invalid it has a special value; while, as furnishing recreation for the physical and even mental powers, the open-air sport it yields has no substitute. The late Lord Palmerston (like many other public servants) used to say that he owed the continued elasticity of his mind to out-door exercise on the moors.

POWERS OF THE LOCAL GOVERNMENT BOARD.

To the Editor of THE LANCET.

SIR,—In reply to "Rusticus," not only do certain Boards of Guardians question the right of the above Board to enforce the Act, but actually set them at defiance, and decline to appoint a health officer. I hold such an appointment in a small town, and where the Board of Guardians have, so far, persistently declined to appoint for the rural district. I am now told that the sanitary authority do not intend to re-elect me next year, on the ground that the guardians have not elected their officer, and the Local Government Board have no power to compel them. Where is this to end?

Yours obediently,

September, 1874. AQUA PURA.

CASTOR AND POLLUX.

LAST year we had to state that M. Ricord, accompanied by M. Demarquay, had undertaken a journey to Constantinople. Public curiosity was then on the tip-toe, and it was inferred that some illustrious Eastern person required the assistance of the great syphilographer, backed by a first-rate surgeon. On this theory we must now suppose that some exalted Russian individual is dangerously or unpleasantly ill; for we find from the *Journ. of St. Petersburg*, quoted by *L'Union Méd.* of Sept. 28th, that the two gentlemen above named have arrived at St. Petersburg. The travellers were shown over the hut hospital, under the patronage of the ladies of St. Petersburg, and were especially struck by the training school for nurses attached to the establishment.

Professor Cameron (Dublin) is thanked for his communication, which shall be published next week.

THE PROFESSION IN THE COLONIES.

To the Editor of THE LANCET.

SIR,—Your "occasional correspondent" of Dunedin, New Zealand," in a late number of your journal, gives his great experience of colonial life after the short residence of fourteen months! To me, an old colonist, his is rather an exaggerated account of the old residents and medical men when he refers to their great indifference to European news, their ignorance of medical topics, their being far behind in medical practice, and their being grossly ignorant of the practice of medicine and surgery. This is, in my opinion, a great libel on the members of our profession at the antipodes. To give you one or two proofs of the great interest taken by the majority of the people in all European news, I may state that when the intelligence arrived of the dangerous illness of the Prince of Wales thousands of people congregated in front of the leading newspaper offices on the arrival of the English mail to learn the latest news; and when the Duke of Edinburgh was shot in Sydney, upwards of six thousand people assembled on the Dunedin pier, awaiting the arrival of the Sydney mail, to know the state of his health. I may also mention that even the oldest colonists still speak of England as home—a sufficient proof that the dear old country is not forgotten by those who emigrate to her colonies.

As regards success in the medical profession, I may give my own experience during sixteen years' residence in Melbourne, Australia, in one branch, which may be of interest to "Obstetricus" (whose letter appeared in THE LANCET of Aug. 22nd), who is desirous of obtaining the death-rate in private midwifery practice, which may convince your numerous readers that the members of our profession at the antipodes are not so ignorant as represented by your correspondent. During sixteen years' practice I attended 2670 midwifery cases, all my own patients with the exception of three. Craniotomy, 1; forceps, 99 (principally the short forceps, used in the last stage to expedite labour); hand and arm, 9; footling, 19; face, 11; breech, 13; shoulder, 3; funis, 6; funis and head, 2. Deaths, one only, from phthisis immediately after the birth. During the attendance on the above cases every form of disease came under my care, such as hæmorrhage, puerperal convulsions, hour-glass contraction, inversion of uterus, puerperal fever, &c.

I have taken the liberty of sending you the above account of my experience, and I may confidently state that there are numbers of physicians and surgeons in the colonies quite equal to the leading members of our profession in England, adopting every new mode of treatment or operation in surgery that will benefit their patients, and taking as deep an interest in their profession as their brethren in Europe.

I trust your readers may not be influenced by the account given by a correspondent of so short an experience in Dunedin, which can boast of first-class medical men and good intellectual society.

I am, Sir, yours faithfully,

Chippenham, September, 1874. WM. FARRAGE, L.R.C.P.

Enquirer.—1. Erichsen; Druitt.—2. Roberts's would be enough.—3. The manual named would not be quite sufficient.

Mr. Wheelhouse (Leeds) is thanked.

COW-POX VACCINATION.

To the Editor of THE LANCET.

SIR,—I wish you would permit me to put on record that for the last three years—viz., 1871, '72, and '73—there has reigned in this neighbourhood, about the Golden-square district, a strange influence in the air, exhibited in every case that I have vaccinated, having the scratches of the lancet followed, on the rising of the pock, by erysipelatous inflammation, which in amount has gradually diminished from the first, but has not yet entirely disappeared, a case having come before me as I write. In two or three cases the lurid inflammation extended down to the fingers' ends, with great prostration, and required active treatment to probably save life; but it was quite common to see the arm swelled and deep red down to the wrist. No death took place that I know of; but one or two have been related to me.

Being informed at the Government Vaccination Office that the fact above stated was not known to them must be my excuse for troubling you.

I am, &c.,

Great Marlborough-street, W., Sept. 1874. J. W. MACKENNA, M.D.

PRURITUS VAGINÆ.

To the Editor of THE LANCET.

SIR,—Can any of your readers inform me what to do in a case of pruritus vaginæ in an elderly person more than seventy years of age, for which all sorts of remedies have been ineffectually tried? Yours truly,

September, 1874. S. S.

DEATH FROM MEASLES IN OLD AGE.

To the Editor of THE LANCET.

SIR,—A patient of mine died on the 16th of May, 1872, having entered his ninety-third year. He was exposed to the contagion of measles, and had all the usual premonitory symptoms. Two days after, while covered with the rash, he died suddenly, and almost in his sleep. Two years before, he had shown great vigour of constitution in rallying completely from severe thecal abscess, necessitating the frequent use of the knife.

Your obedient servant,

Winslow, Bucks, Sept. 21st, 1874. THOMAS NEWHAM, M.D.

Ursa Major.—According to Képesy, the surgeon to the Austrian Polar expedition, chocolate, as a beverage, proved most valuable of all—the preserved meat and vegetables in tins being also of the greatest service in sustaining the strength and spirits. Mental anxiety, however, caused by the hourly-apprehended crushing of the *Tegetthoff* by the ice-fields in which it was imbedded, so far neutralised the virtues of the victualling that scurvy and affections of the lungs set in, and yielded only to the incessant bear-hunting in which the officers and crew wisely indulged to keep the faculties, moral as well as physical, occupied. The fresh bear's meat, as a change from the preserved, had also its advantages; but several of the crew succumbed—one of them being Krisch, the able engineer, who died of consumption, and was buried between two basalt columns in the newly-discovered land.

TREATMENT OF BRONCHITIS AND ASTHMA.

To the Editor of THE LANCET.

SIR,—Having had so many letters as to the doses and formula I use in the treatment of bronchitis and asthma that it is utterly impossible for me to reply to each query, I shall be very much obliged if you will kindly allow me through your medium to mention that I give the usual doses of the various drugs mentioned. Yours truly,

Maryport, Sept. 7th, 1874. W. H. SPURGIN, M.R.C.S.E., &c.

OWING to the space taken up by the introductory addresses, we are this week compelled to postpone the insertion of the Hospital Mirror, Reviews, the Paris letter, &c.

ERRATA.—In Mr. Jeaffreson's letter, published in our last issue, page 465, 2nd col., line 22 from bottom (of text) for "Thus a mortality of 20 per cent. for amputations," should read "50 per cent.," &c. In the table on next page, the mortality after amputations in private country practice should have been stated as 17·8 per cent., instead of 10·8.

COMMUNICATIONS, LETTERS, &c., have been received from — Dr. Ferrier, London; Dr. Dickinson, London; Dr. Fenwick, London; Dr. Daly; Mr. Verdin, Winsford; Mr. Greene, London; Mr. W. L. White, Leeds; Dr. Potter, London; Mr. Fosbroke; Mr. Lawson Tait; Mr. John Foster, London; Mr. T. Crosse, Norwich; Dr. Rogers, London; Mr. Jeaffreson, Newcastle-on-Tyne; Mr. Reeves; Mr. Gowland, Durham; Dr. Muscroft, Pontefract; Mr. Wiglesworth, Liverpool; Mr. Lyle, London; Mr. Hugoe; Dr. MacCormac, Belfast; Mr. Newstead, London; Mr. S. Smith, Liverpool; Mr. Tibbits, Bristol; Mr. Jagge; Mr. Walker, London; Dr. Shand, Aberdeen; Mr. Macaulay, Honiton; Mr. Stewart, Blackburn; Mr. Gant; Dr. Wiltshire, London; Mr. Tindall, London; Mr. C. H. Phillips, Bury; Mr. Robinson, Dublin; Mr. Teale, Leeds; Dr. Heywood Smith, London; Dr. Jay, Scarborough; Mr. L. Kesteven, Derby; Mr. Wheelhouse, Leeds; Mr. MacCormac, London; Mr. P. Squire, London; Dr. Powell, London; Dr. Roberts, London; Mr. Pearse, London; Dr. Lowndes; Mr. Domvill, Exeter; Mr. A. J. D. D'Orsey, London; Mr. Orr; Dr. Cartwright Reed, London; Mr. Rendle, Forest Hill; Mr. Beaumont, London; Mr. Clarke, Edinburgh; Dr. Stokes, Peckham; Dr. Field, Ramsgate; Mr. Murray, Cork; Dr. M'Kechnie, Darlington; Dr. Holmes, Wigan; Mr. A. Clark, London; Mr. Fergus, Marlborough; Mr. Shirtliff, Kingston-on-Thames; Dr. Waddell, Tombland; Mr. Owen, London; Mr. Crickmer, London; Dr. Edgar, Kendal; Mr. J. Buckle, Surbiton; Dr. Duckworth, London; Mr. Needes, London; Mr. J. Beal, London; Mr. Pegler, Staveley; Dr. Sturges, London; Messrs. Kelly and Peel, Baltimore; Mr. B. Mason, Exeter; Mr. F. J. Brown, London; Messrs. Southall and Co., Birmingham Dr. Gramshaw, Stillington; Dr. Chepmell, London; Dr. Cameron, Dublin; Messrs. Fuller and Co., Ramsgate; Mr. Rix, Tunbridge Wells; Mr. Mitchell, Clapham; Mr. Thomson, Southall; Mr. Daniel, Chelsea; Dr. Hall, Swadlincote; Dr. O'Connor, March; Mr. Snape, Peterborough; Mr. Jaberton, Blaenavon; Dr. Eastes, London; Mr. Macnamara, London; Dr. Mason, Sheffield; Mr. Macarthur, Llandilo; Dr. Finch, Salisbury; Mr. Heame, Birchington-on Sea; Mr. Bond, Bromwich; Mr. Crow, Whitstable; Mr. Cooke, London; Mr. Belenfoote, London; Enquirens; The Registrar of the General Medical Council; S. S.; Enquirer; M.D.; An Observer from a Distance; Constant Reader; &c. &c.

LETTERS, each *with enclosure*, are also acknowledged from — Mr. Mason, Exeter; Mr. Edwards, Ystradgynlais; Mr. Staff, Wadebridge; Mr. Hunt, Belford; Mr. M'Carthy, Abbeyfeale; Mr. Macartney, Liverpool; Dr. Long, Dalston; Mr. Walker, Hanley; Mr. Knapton, Charlbury; Mr. Aspinall, Darwen; Mr. Aveling, Sheffield; Mr. Roberts, Sheffield; Mr. Richards, Aberdare; Mr. Smith, Fallowfield; Mr. Kemm, Corsham; Mr. Murray, Dublin; Dr. Fisher, Sittingbourne; Mr. Garman, Wednesbury; Mr. Head, East Grinstead; Mr. Phillips, Kidderminster; Mr. Denne, Canterbury; Mr. Weekes, Chatham; Mr. Stiles, Spalding; Mr. Backhouse, Bridgnorth; Dr. Davies, Mountain Ash; Mr. Porter, Blackpool; Messrs. Sturges & Co., York; Mr. Packman, Sheffield; Mr. Edwards, Halstead; Mr. Thomson, Dudley; Mr. Wall, Wigan; Mr. Cooper, Macclesfield; Mr. Quin, Sheffield; Messrs. A. and W. Fox, Manchester; Mr. Whalley, Bradford; Mrs. Tate, Fareham; Dr. Carruthers, Edinburgh; Dr. Hennessy, Dublin; Mr. Drew, Kingston; Mr. Hordley, Hartshill; Mr. Bishop, Culworth; Mr. Howard, New Buckenham; Mr. Wostenholm, Sheffield; Mr. Clarke, Birmingham; Dr. Crowther, Luddenden; Medicus, Edinburgh; M.R.C.S., Hounslow; B. H. H., Uttoxeter.

Newcastle Daily Chronicle, Sunday Times, Welshman, Cork Constitution, Leicester Chronicle, Indian Public Opinion, Isle of Man Times, Manchester Guardian, Huddersfield Daily Chronicle, Surrey Advertiser, Kensington News, Burnham and Highbridge Gazette, Colonial Standard, Staffordshire Daily Sentinel, and *Barrow Daily Times* have been received.

METEOROLOGICAL READINGS

(Taken by Steward's Instruments).

THE LANCET OFFICE, OCT. 1ST, 1874.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rainfall.	Remarks at 8 A.M.
Sept. 25	30·32	W.	57	59	99	80	51	...	Fine
„ 26	30·27	W.	57	61	91	75	52	...	Overcast
„ 28	29·96	W.	60	61	99	70	54	0·03	Overcast
„ 29	29·79	W.	56	60	97	69	55	...	Cloudy
„ 30	29·90	S.W.	62	54	...	...	49	0·08	Raining
Oct. 1	29·54	S.W.	57	60	...	...	50	0·96	Fine

Medical Diary for the ensuing Week.

Monday, Oct. 5.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ST. PETER'S HOSPITAL.—3 P.M. Expected Operation: Lithotrity.

Tuesday, Oct. 6.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, Oct. 7.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1½ P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Thursday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
ROYAL MICROSCOPICAL SOCIETY.—8 P.M. Mr. A. Sanders: "Supplementary Remarks on the Appendicularia."
OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Dr. John Williams, "On the Relation between Congestion of the Uterus and Flexion of the Organ." —Dr. Bathurst Woodman, "On the Prevention of Mammary Abscesses by the application of the Principle of Rest." — Dr. Gervis: "Cases of Retroversion of the Gravid Uterus." — Dr. Madge: "Case of Ileo-cæcal Intussusception in an Infant of eight months." — And other communications.

Thursday, Oct. 8.

ST. GEORGE'S HOSPITAL.—Operations 1 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

Friday, Oct. 9.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CLINICAL SOCIETY OF LONDON.—8½ P.M. Dr. Dalby, "On a Case of Foreign Body impacted in the External Auditory Meatus." — Mr. W. Haward, "On a Case of Caries of the Cervical Spine."—Dr. Southey, "On a Case of Extensive Cancer in the Lungs."

Saturday, Oct. 10.

HOSPITAL FOR WOMEN Soho-square.—Operations, 9½ A.M.
ROYAL FREE HOSPITAL.—Operations, 9 A.M. and 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

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